
A Profile of Massachusetts Adults with Disabilities, 1998-2000

Results from the Behavioral Risk Factor Surveillance System



Division of Special Health Needs
Bureau of Family and Community Health
Massachusetts Department of Public Health

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Executive Summary

A Profile of Massachusetts Adults with Disabilities, 1998-2000: Results from the Behavioral Risk Factor Surveillance System presents a profile of disability in Massachusetts. Findings from this report include information on the prevalence of adults with disabilities, and their socio-economic characteristics, health risk behaviors, health care access and utilization, quality of life, and health status. Wherever possible, comparisons with adults without disabilities have been provided.

The findings are based on results from the 1998, 1999 and 2000 Massachusetts Behavioral Risk Factor Surveillance Systems (BRFSS) surveys. The BRFSS survey collects information from a random sample of non-institutionalized Massachusetts' adults, age 18 and older, on a variety of health issues including issues related to disability and quality of life. [For details of survey, see Appendix]

Below are the highlights of the report.

Prevalence

Based on data from 1998-2000, 18% of the non-institutionalized Massachusetts adult population reported having a limitation or disability. The most common disabling condition was orthopedic problems (29%) followed by chronic conditions (18%), arthritis (12%), affective problems (8%), and sensory problems (7%). As expected, disability was more common among older adults.

Health Risk Behaviors

An estimated 25% of adults with disabilities smoked compared to 19% of adults without disabilities. The percent of adults who smoked decreased with age for both groups. Overall, adults with disabilities were slightly less likely to be binge drinkers (13%) than adults without disabilities (19%). There was no difference in heavy drinking between adults with disabilities and adults without disabilities.

Obesity was more common among adults with disabilities when compared to adults without disabilities. Adults with disabilities were also less likely to report leisure-time physical activity in the past month, compared to adults without disabilities.

Health Care Access and Utilization

Five percent of adults with and without disabilities were currently without health insurance. Having no insurance decreased with increasing age for both groups. However, individuals with disabilities were more likely to be underinsured compared with individuals without disabilities.

Individuals with disabilities were slightly more likely to have seen a doctor for a routine check up in the previous year (86%) when compared to individuals without disabilities (77%). Similarly, adults with disabilities were more likely to have had a flu shot in the past year and to have ever received a pneumococcal vaccination compared to adults without disabilities.

Individuals with disabilities were less likely to have seen a dentist in the past year and to have six or more teeth missing due to disease, when compared to individuals without disabilities.

There was essentially no difference between adults with and without disabilities regarding breast, cervical, and prostate cancer screening. However, individuals with disabilities were more likely to ever had a proctoscopic exam (51%) compared to individuals without disabilities (42%).

There was no difference in the percentage of people with and without disabilities with a high or medium risk of being infected with HIV. However, 27% of adults with disabilities were tested for HIV in the past year compared to 20% of adults without disabilities.

Quality of Life

One in every four (25%) adults with disabilities reported that pain limited activities for more than half of the previous month compared to only 2% of adults without disabilities. Adults with disabilities were also more likely to report being sad, blue, or depressed, have more days of insufficient sleep, and feel worried, tense, or anxious 15 or more days in the previous month when compared to adults without disabilities. Additionally, adults with disabilities were less likely to be satisfied with their life and feel healthy and full of energy compared to adults without disabilities.

Among women 18-59, women with disabilities were twice as likely to have experienced intimate partner abuse in the past year (10%), when compared to women without disabilities (5%). Intimate partner abuse decreased with increasing age for both groups of women. Women with disabilities were also much more likely to ever have experienced sexual assault compared to women without disabilities.

Health Status

One in every three adults with disabilities described their health as fair or poor compared to five percent of adults without disabilities. Both physical and mental health were strongly associated with disability status. A similar association was found between disability status and health interfering with usual activities. Adults with disabilities had fewer healthy days in the previous month when compared to adults without disabilities.

Persons with disabilities were more likely to have diabetes, heart disease, high blood pressure, and high cholesterol than non-disabled persons. Moreover, among women age 45 and older, osteoporosis was more common among women with disabilities, when compared to women without disabilities.

1. Introduction

The Office on Health and Disability in the Massachusetts Department of Public Health is funded through a state capacity-building grant from the Office of Disability and Health of the national Centers for Disease Control and Prevention. In 1997, Massachusetts was one of 14 states to receive a four-year grant which has permitted Massachusetts to sustain and build public health capacity to address health needs of individuals with disabilities.

The mission of the Massachusetts Office on Health and Disability (OHD) is to promote health and wellness for people with disabilities and to prevent "secondary conditions." This mission reflects the understanding that disability need not equal poor health; prevention and health promotion are as relevant for people with disabilities as for people without; and most secondary conditions – "other health problems" to which individuals with disabilities may be vulnerable, but which do not directly reflect their disabling condition – are preventable.

OHD goals, which form the basis for its program initiatives, are optimal health status for individuals with disabilities, full inclusion in community living for individuals with disabilities, and access to comprehensive, high quality care for individuals with disabilities

To achieve those goals, OHD seeks to build broad health and disability awareness among consumers, providers, and the public, to establish an informed health and disability constituency, and to expand access to public health services for individuals with disabilities. A fourth strategy, required to achieve the prior three, is to collect and disseminate data, which can clarify the prevalence of disability and to identify health and related needs of individuals with disabilities.

This report is one part of our effort to achieve the fourth goal. It draws on data collected from a random sample of the Massachusetts population to characterize the impact of disability within the state. The report indicates that many Massachusetts residents live with disabilities and suggests that specific risks, such as smoking and obesity, which pose particular challenges for individuals with disabilities and are present at elevated levels among the population with disabilities. Finally, the data reveal the potential of public health efforts to improve health status and overall well-being of people with disabilities.

The report on adults with disabilities in Massachusetts from 1998 to 2000 presents a profile of disability in Massachusetts. The findings are based on results from the 1998, 1999, and 2000 Massachusetts Behavioral Risk Factor Surveillance Systems (BRFSS) surveys. The BRFSS survey collects information from a random sample of non-institutionalized Massachusetts' adults, age 18 and older, on a variety of health issues including issues related to disability and quality of life. [For details of survey, see Appendix]

In 1998-2000, the Massachusetts BRFSS included screening questions to identify adults with disabilities. These questions were:

- "Are you limited in any way in any activities because of any impairment or health problem?"
- "Because of any impairment or health problem, do you have any trouble learning, remembering, or concentrating?"
- "If you use special equipment or help from others to get around, what type to you use?"
- "Would you describe yourself as having a disability of any kind? A disability can be physical, mental, emotional, or communication-related."

Adults who answered yes to any of the screening questions were asked about the nature of their major impairment, health problem, or disability; how long their activities had been limited; and whether they needed the help of other persons in handling routine needs or personal care.

Persons who responded yes to at least one of the screening questions and whose activities had been limited for at least one year were considered for this report as having disabilities. Persons with disabilities were classified into two groups: those who needed assistance in handling routine needs or personal care and those who did not need assistance. [See Appendix for a more complete explanation of the definition of disability]

A total of 17,679 interviews that included questions on disability were conducted in 1998-2000 (4,944 in 1998, 7,287 in 1999, and 5,448 in 2000). Where possible, the information presented here is based on data from all years. However, some questions were not asked in all three years, and thus only one or two years of data are available for some analyses and presentations.

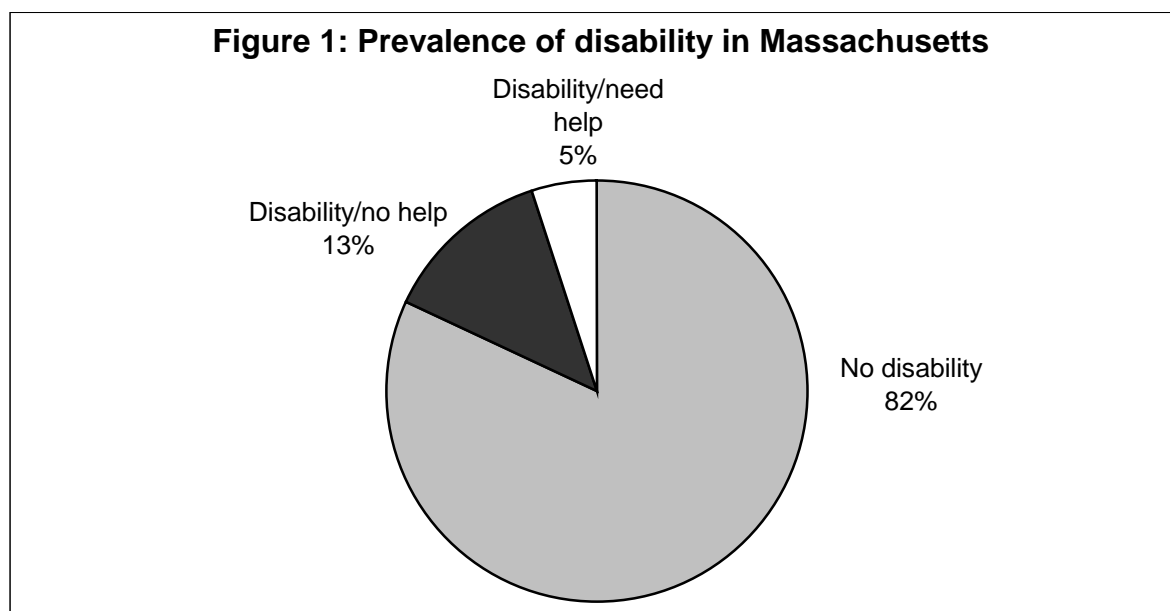
A total of 3,074 individuals in all three years were identified as having disabilities. Of these individuals, 868 needed assistance with routine needs or personal care. There were 12,676 individuals who did not have disabilities. Excluded from the analysis were 1,942 individuals because they could not be classified as having or not having a disability. [See Appendix]

It is important to note that individuals with the most severe limitations were not included in this report. This is because institutionalized individuals are not included in the BRFSS, and BRFSS methodology also precludes anyone assisting the selected respondent in completing the interview if the selected adult had difficulty in participating for any reason, such as a disability.

2: Prevalence of Disability in Massachusetts

Based on data from the 1998-2000 BRFSS, 18% of the non-institutionalized Massachusetts adult population, or an estimated 800,000 people, had a limitation or disability due to an impairment or health problem. The 18% of adults with disabilities were divided into two categories based on whether they needed assistance in handling routine needs or personal care. Five percent of all adults, or 210,000 people, needed assistance and 13%, or an estimated 580,000 people, did not require assistance (Figure 1).

In 1999 and 2000, individuals were asked if they considered their disability to be mild, moderate or severe. Forty three percent of those who required assistance considered their disability to be severe, compared to 12% of those who did not require assistance.



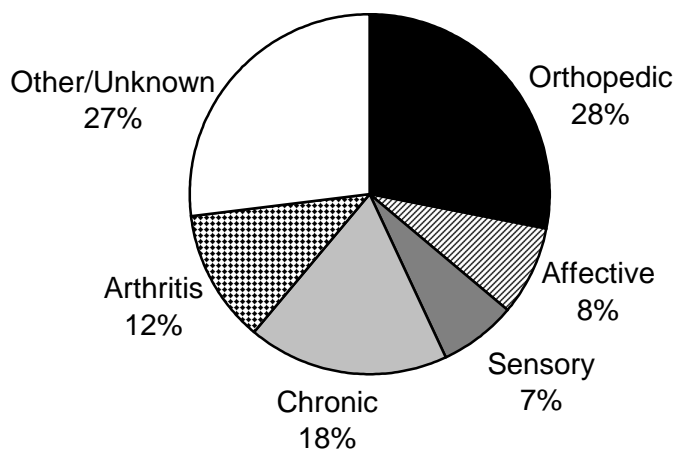
Source: MA BRFSS, 1998-2000

Major Conditions

Individuals who reported a limitation or disability were asked about their major impairment or health problem. The most common conditions were orthopedic problems, including back, neck, bone and joint injuries (28%); followed by chronic conditions including respiratory and heart disorders, stroke, diabetes and cancer (18%), arthritis (12%), affective conditions including depression, anxiety or emotional problems (8%), and sensory problems including hearing and vision problems (7%) (Figure 2). In addition, 27% either reported other impairments (25%) or said they didn't know or refused to answer (2%).

Adults with disabilities who needed help were slightly more likely to report orthopedic problems (33%) compared to those who did not need help (26%), and were also slightly more likely to report arthritis (15%) compared to those who did not need help (11%). However, adults with disabilities who did not need help were more likely to report depression, anxiety or emotional problems (9%) compared to those who needed help (4%).

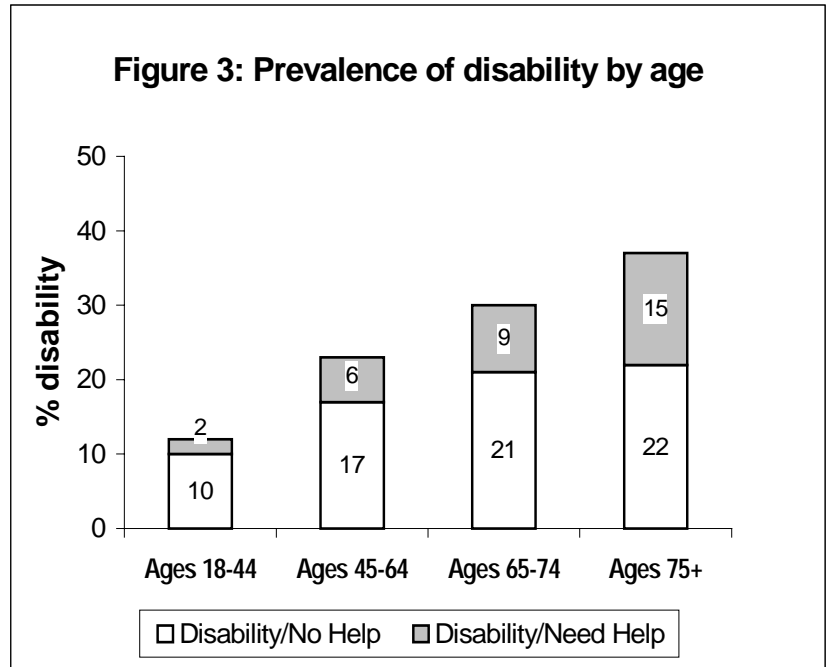
Figure 2: Type of health problem or disability among adults with disabilities



Source: MA BRFSS, 1998-2000

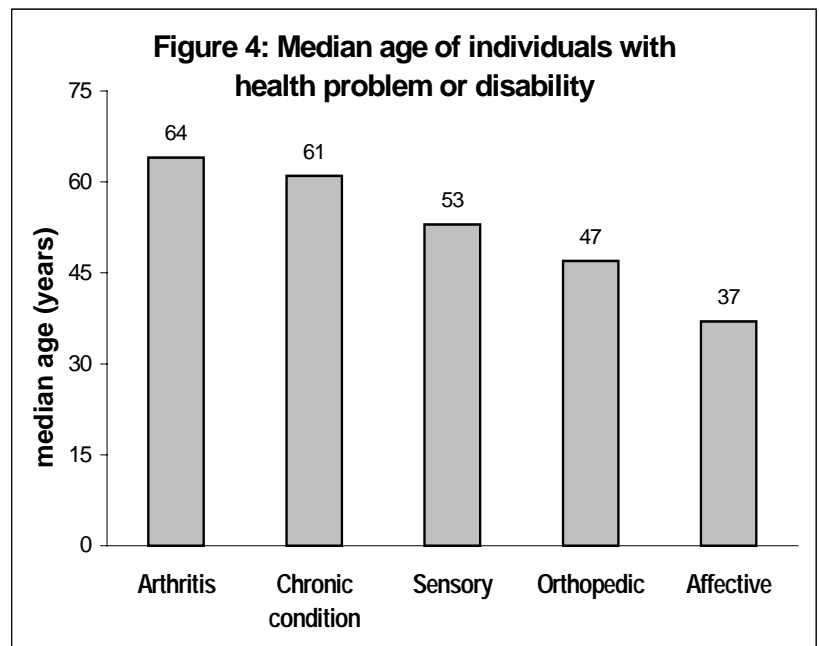
Age

Disability is strongly associated with age. Figure 3 shows that the prevalence of disability increased substantially with age. The percentage of individuals who did not need help did not increase after age 65 while the percentage of individuals who did need help continued to increase among those 75 and older.



Source: MA BRFSS, 1998-2000

While disability in general was more common among older adults, the age composition among adults with different limitations varied. Figure 4 displays the median age of individuals with different types of disabilities. Adults with affective disorders were the youngest.



Source: MA BRFSS, 1998-2000

3. Demographic Profile of Massachusetts Survey Respondents, by Disability Status

Table 1 shows the crude percentage of the population with disabilities by age and other demographic characteristics. It also shows the age standardized estimates for characteristics other than age. These estimates were age-standardized to the 1998-2000 BRFSS population because age is associated with disability and is also associated with gender, race/ethnicity, and education within the MA population. Age standardization allowed us to assess the relationship between disability and demographic characteristics as if the disabled and non-disabled populations had the same age distribution. Women were almost twice as likely as men to be age 75 and older, the Black and Hispanic populations were younger than the White population, and higher educational attainment generally decreased with increasing age. Without controlling for the effect of age, differences seen in the demographic characteristics between the disabled and non-disabled populations could be due to age rather than disability status.

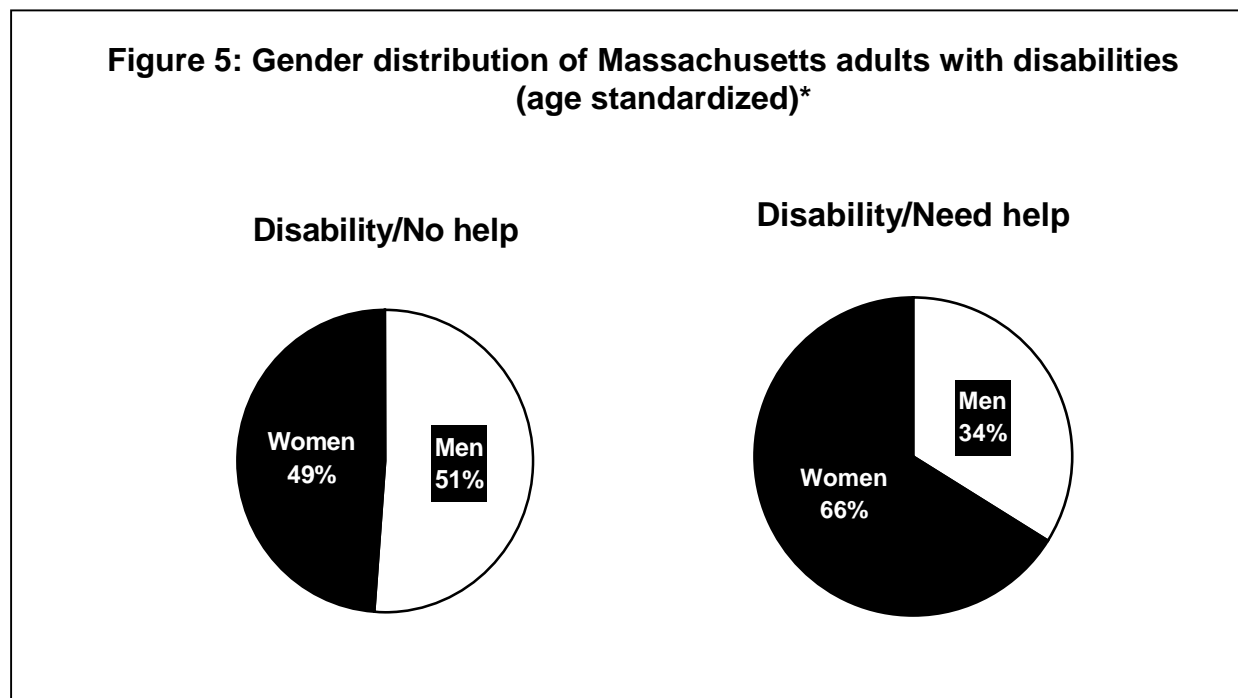
Table 1: Summary Prevalence of Disability by Demographic Characteristics of Massachusetts Residents						
	Any disability		Disability, no help		Disability, need help	
	Crude rate	Age std rate*	Crude rate	Age std rate*	Crude rate	Age std rate*
Total Population	18.8		13.7		5.1	
Age group						
18-44	12.3		9.9		2.4	
45-65	23.1		16.6		6.4	
65-74	29.3		20.6		8.5	
75 and older	37.1		22.3		14.7	
Gender						
Male	18.9	19.2	15.2	15.3	3.6	3.9
Female	18.1	17.4	12.0	11.8	6.0	5.6
Race/ethnicity						
White	18.7	18.0	13.8	13.4	4.6	4.8
Black	16.2	18.3	10.1	11.3	7.0	6.0
Hispanic	18.9	24.0	13.2	16.7	7.2	5.5
Education						
Less than high school	35.5	32.8	21.9	20.1	12.6	13.5
High school graduate	20.0	19.4	14.3	14.1	5.2	5.6
College 1-3 years	18.3	18.5	13.1	13.1	5.3	5.1
College 4+ years	13.8	14.6	11.3	11.8	2.8	2.5
City of Residence						
Boston	16.9	19.8	13.1	15.3	3.8	4.5
Fall River/New Bedford	25.3	26.2	16.4	17.2	8.8	8.9
Laurence/Lowell	23.8	24.8	18.7	16.1	8.0	8.7
Springfield	21.7	22.8	16.1	16.9	5.6	5.8
Worcester	21.4	21.1	15.7	15.6	5.7	5.5
Rest of State	18.0	17.5	13.2	12.9	4.7	4.6

Source: MA BRFSS, 1998-2000

*Age standardized to the 1998-2000 BRFSS population.

Disability and Gender

There is essentially no difference in the age standardized percentage of men and women who have disabilities (Table 1). Nineteen percent of men and 18% of women had disabilities. Overall, approximately 47% of individuals with disabilities were men and 53% were women. However, gender distribution of those with disabilities differed based on need for assistance as shown in Figure 5.

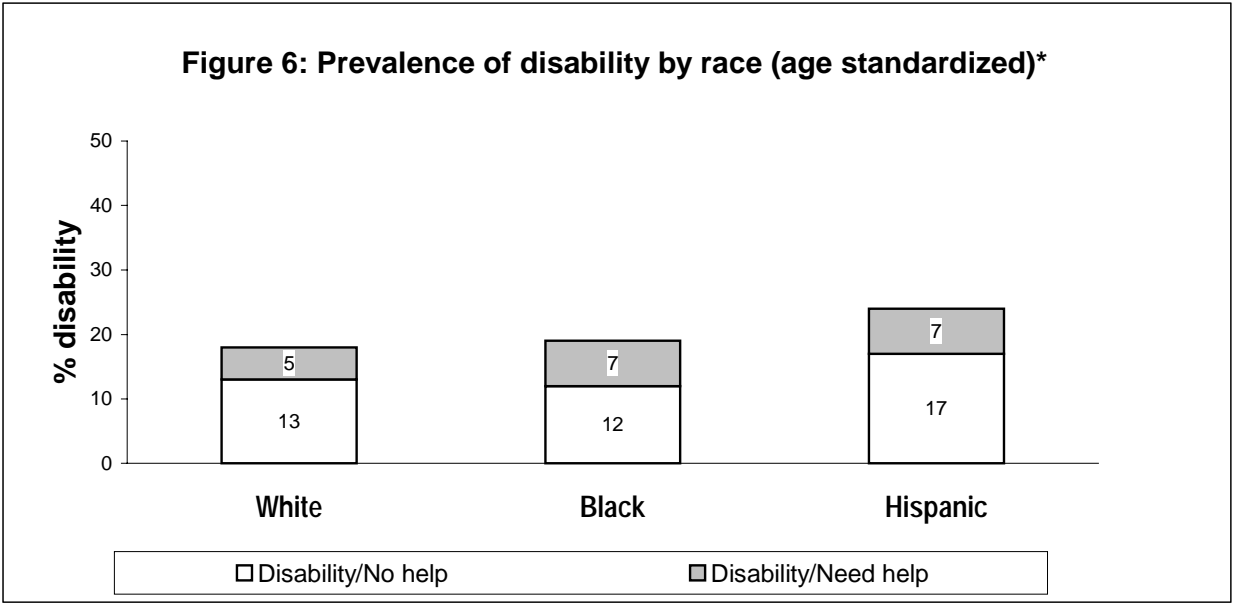


Source: MA BRFSS, 1998-2000

*Age standardized to the 1998-2000 BRFSS population.

Disability and Race/Ethnicity

Figure 6 shows the prevalence of disabilities among Whites, Blacks and Hispanics. There was essentially no difference in the age-standardized prevalence of disability across these three racial/ethnic groups. The sample sizes for Asians and other races were too small to provide reliable disability estimates.

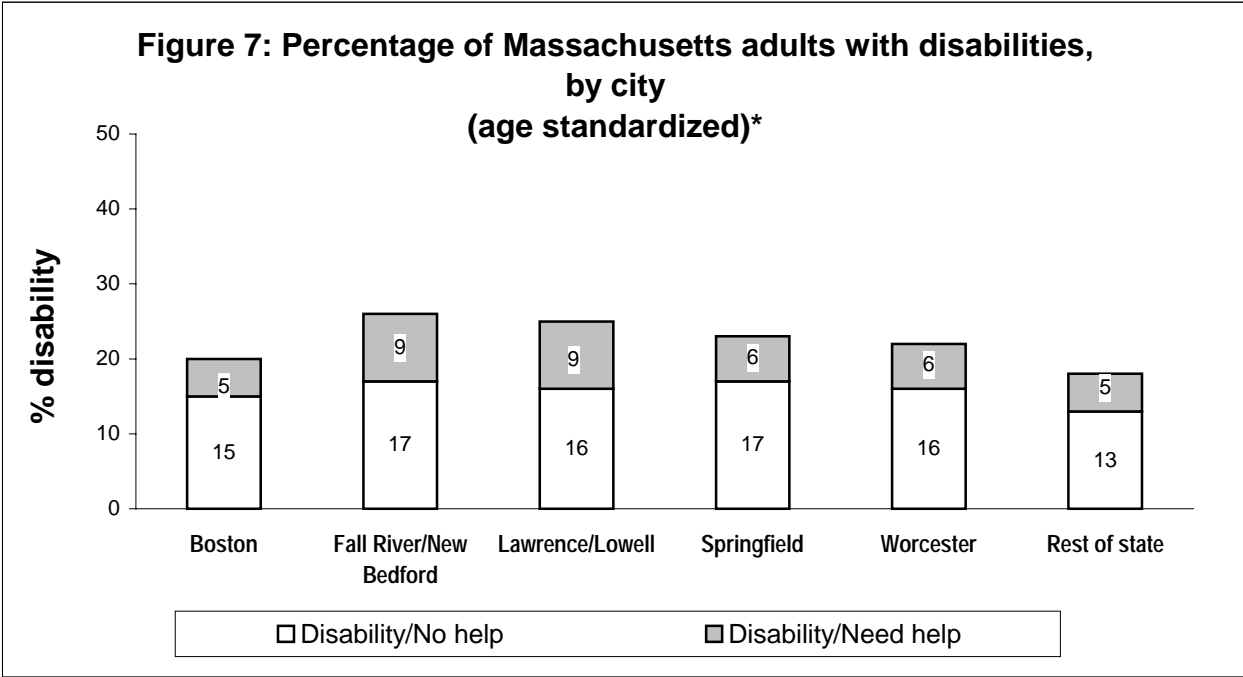


Source: MA BRFSS, 1998-2000

*Age standardized to the 1998-2000 BRFSS population.

City of Residence

Figure 7 shows the percentage of adults with disabilities living in five metropolitan areas in Massachusetts and in the rest of the state. Within the metropolitan areas, the age standardized rate of adults with disabilities ranged from 20% in Boston to 26% in Fall River/ New Bedford.

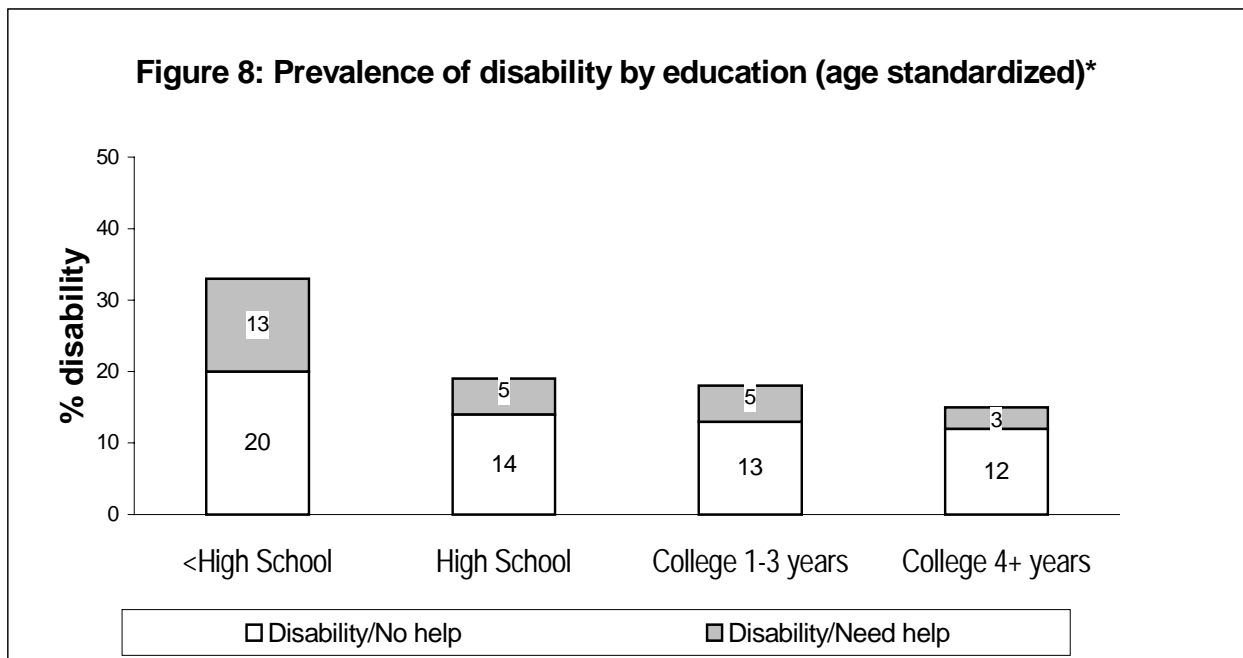


Source: MA BRFSS 1998-2000

*Age standardized to the 1998-2000 BRFSS population.

Disability and Education

Educational attainment was strongly related to disability status. Thirty-three percent of adults without a high school education had disabilities, compared to 15% of college graduates (Figure 8). There was very little difference in disability prevalence among high school graduates and those with more education.



Source: MA BRFSS, 1998-2000

*Age standardized to the 1998-2000 BRFSS population.

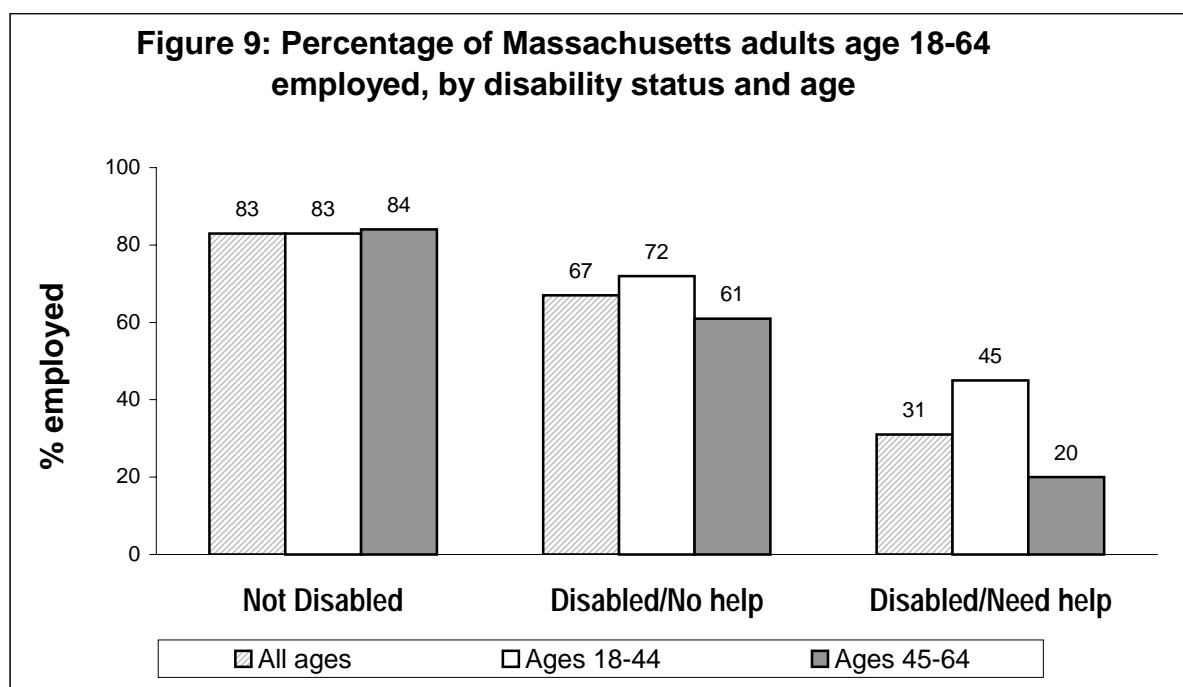
4. Comparison Between Adults With Disabilities and Without Disabilities

A. Socioeconomic Characteristics

Employment

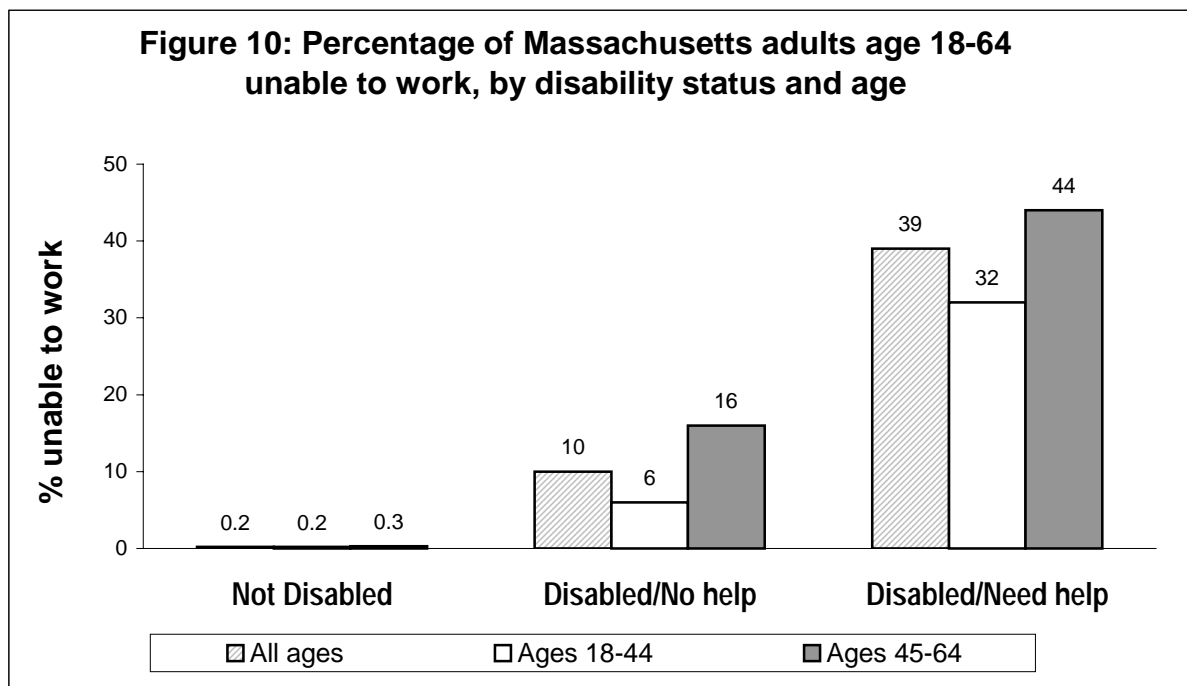
Among working age adults (18-64 year olds), adults with disabilities were less likely to be employed (59%) than adults without disabilities (83%). The “employed” category includes those employed for wages and the self-employed.

Persons with disabilities who do not need assistance, particularly those age 45 and older, were slightly less likely to be employed, compared to persons without disabilities (Figure 9). Persons with disabilities who needed assistance were much less likely to be employed, compared to the other groups. Among adults with disabilities who needed assistance, there was also a considerable decrease in employment for older persons compared to younger persons.



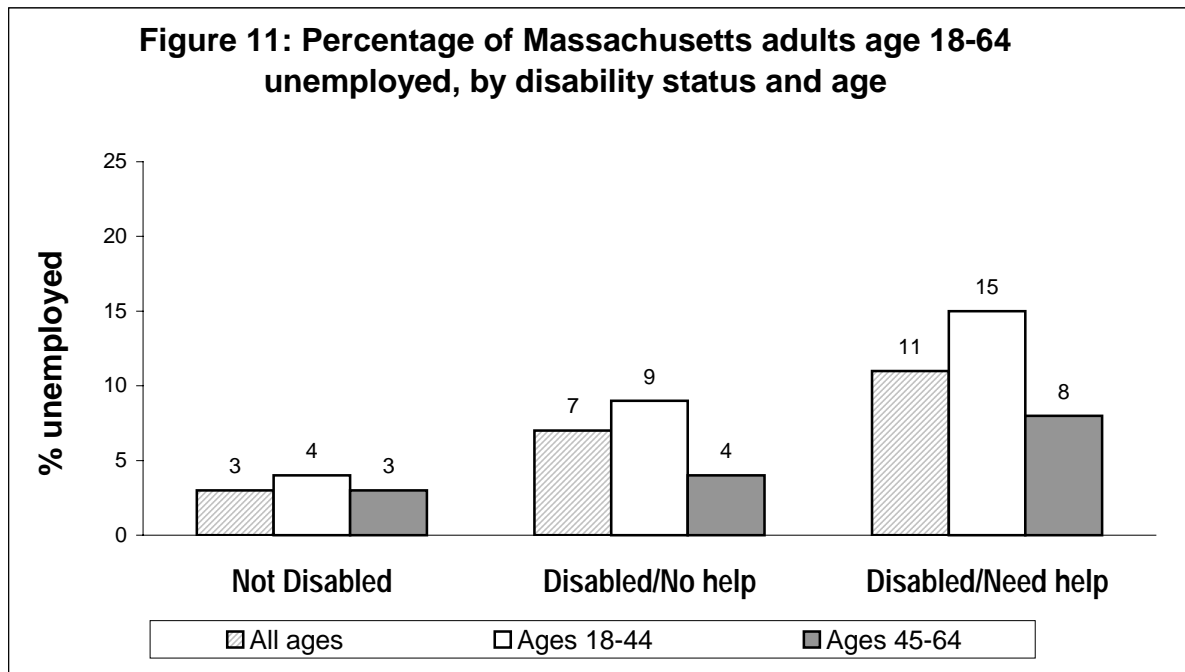
Source: MA BRFSS, 1998-2000

Adults with disabilities, particularly those who needed assistance, were more likely to be unable to work, than adults without disabilities (Figure 10). Among adults with disabilities who did not need assistance, the percentage who were unable to work was higher for older compared to younger individuals. The percentage of people with disabilities who needed help and were unable to work was high, regardless of age.



Source: MA BRFSS 1998-2000

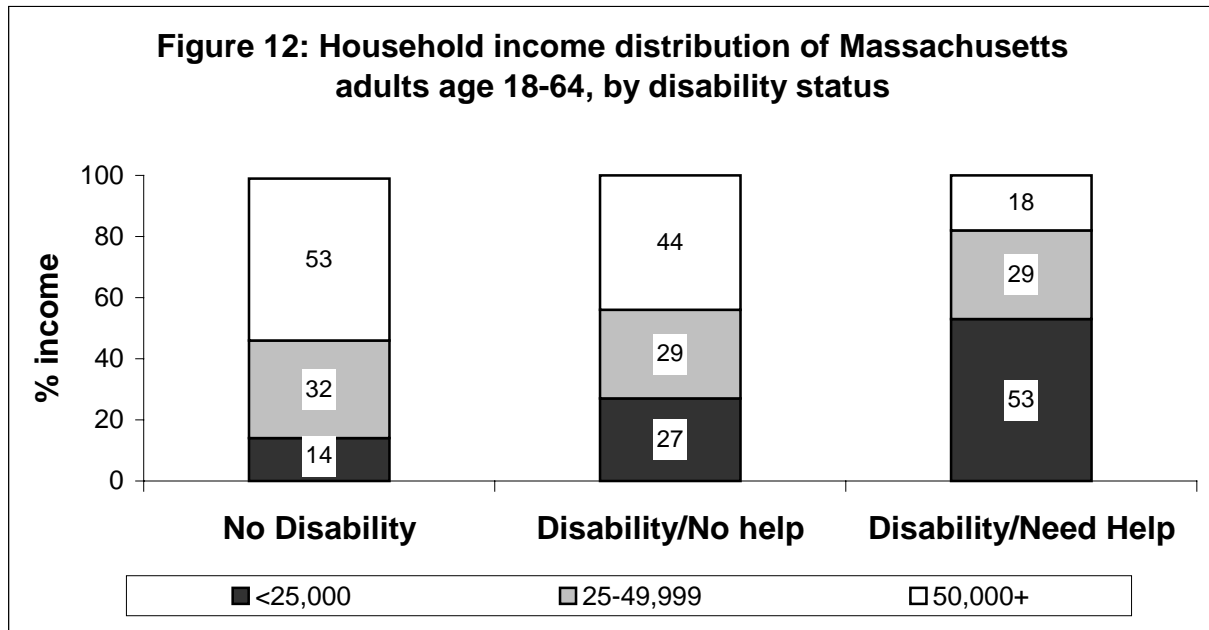
Figure 11 shows the percentage of unemployed working age adults aged 18-64, by disability status and age. Unemployed status includes anyone currently out of work, except those who described themselves as unable to work. In the 18-44 year age group, individuals with disabilities, particularly those who needed help, were more likely to be unemployed (15%), than people without disabilities (4%). Among people without disabilities, there was no difference in the percentage unemployed based on age. Among those with disabilities, the percentage unemployed was lower for older individuals, compared to younger individuals. This was largely due to the higher rates of being unable to work among older adults with disabilities, age 45-64.



Source: MA BRFSS, 1998-2000

Income

Figure 12 shows the household income distribution among working age (18-64) adults by disability status. Adults with disabilities had lower annual household incomes than adults without disabilities. Income was lowest for persons with disabilities who needed assistance. Of those who needed assistance 53% had incomes less than \$25,000, compared to 27% of individuals with disabilities who did not need help, and 14% of those without disabilities. Only 18% of the adults with disabilities who needed assistance had incomes over \$50,000 compared to 44% of those with disabilities who did not need assistance and 53% of people with no disability.

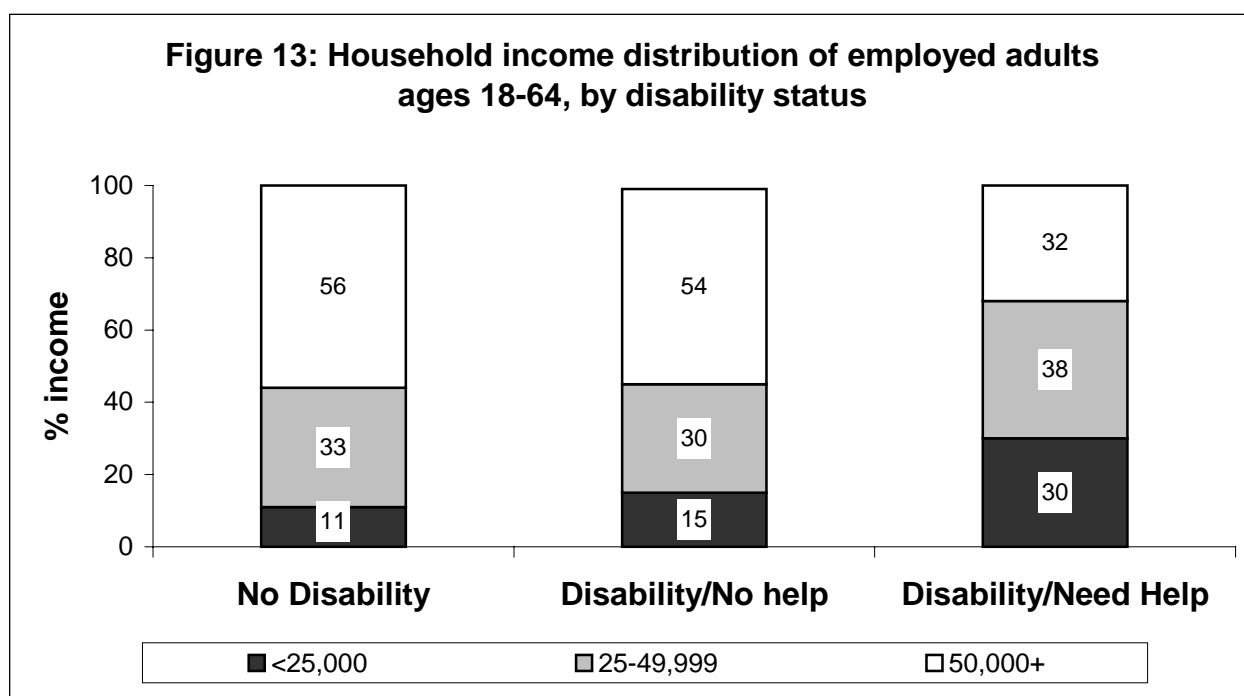


Source: MA BRFSS 1998-2000

Employment status is a likely explanation for the disparity in income between those individuals without disabilities and those with disabilities who do not need assistance. Among employed 18 to 64 year olds, there was little difference in income levels for these two groups (Figure 13).

However, employment status does not explain the lower income levels of individuals who have disabilities and need assistance. Even among the employed, adults with disabilities who need assistance had lower incomes compared to adults without disabilities and those with disabilities who did not need assistance. Of the adults with disabilities who needed assistance and were employed, 30% had annual household incomes less than \$25,000, compared to 15% of the employed persons with disabilities who did not need assistance and 11% of the employed persons without a disability.

We note that the BRFSS does not distinguish between full-time and part-time employment and we therefore cannot determine if part-time employment among those with disabilities who need assistance is an explanation for this income disparity.

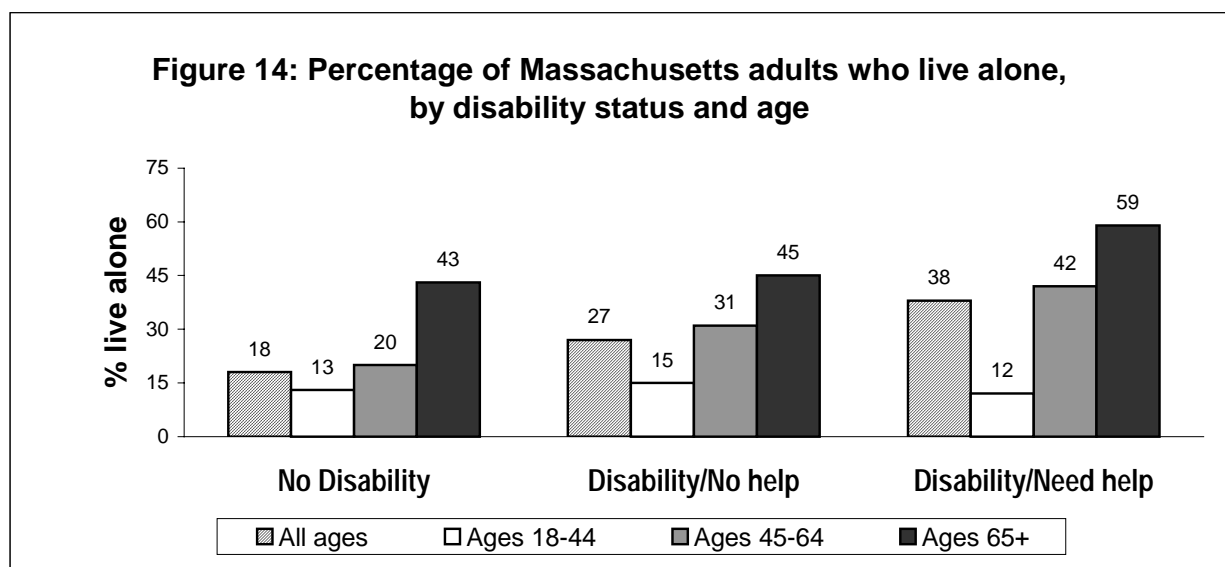


Source: MA BRFSS 1998-2000

Living Alone

Adults with disabilities were more likely to live alone (30%), compared to adults without disabilities (18%). Figure 14 shows that the percentage of people living alone increased with increasing age among all groups. There was essentially no difference in the percentage of people living alone among 18-44 year olds by disability status.

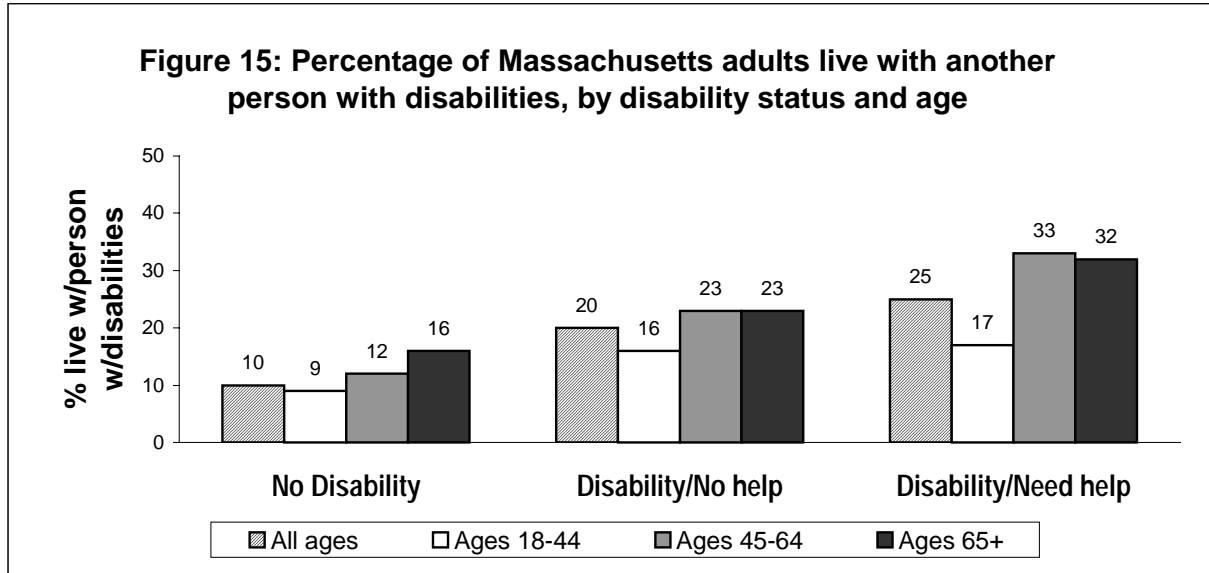
Among adults with disabilities, the percentage of those who lived alone increased considerably for people age 45 and older, compared to younger people. This difference was most marked for adults with disabilities who needed assistance.



Source: MA BRFSS 1998-2000

Living with Another Person with Disabilities

Respondents who did not live alone were asked if there was anyone else in the household who had a disability or who was limited in any way in any activities because of any impairment or health problem. Within each age category, adults with disabilities were more likely to live with another person with disabilities, when compared to adults without disabilities (Figure 15). Individuals with disabilities who needed assistance, age 45 and older, were particularly more likely to live with another person with disabilities.



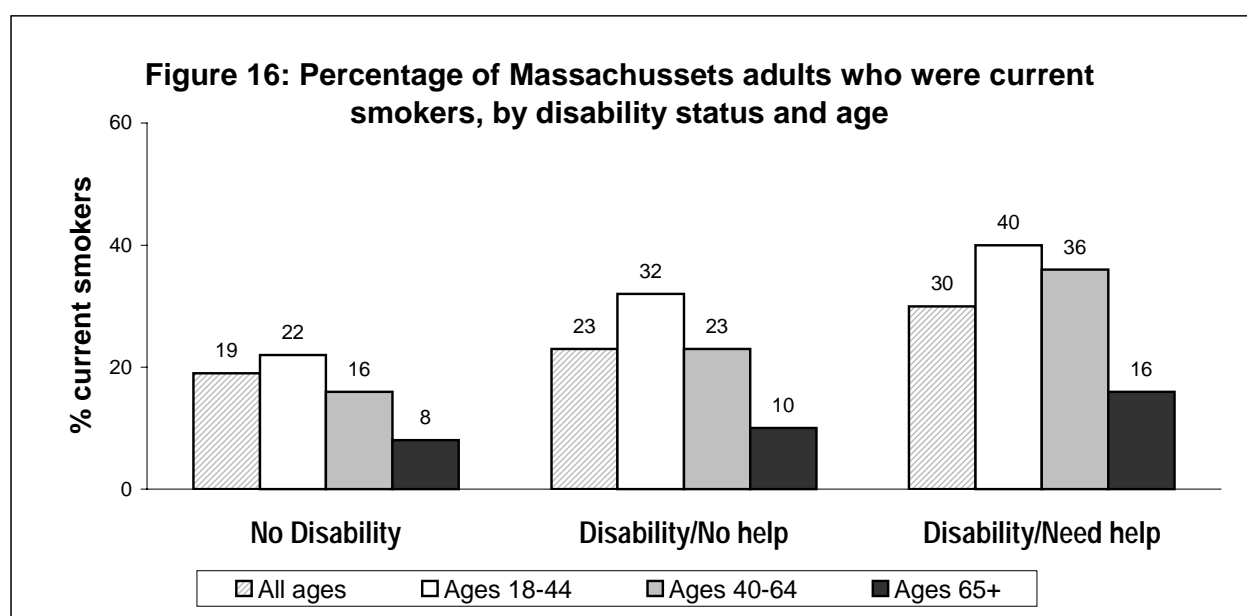
Source: MA BRFSS 1998-2000

B. Health Risk Behaviors

Current Smoker

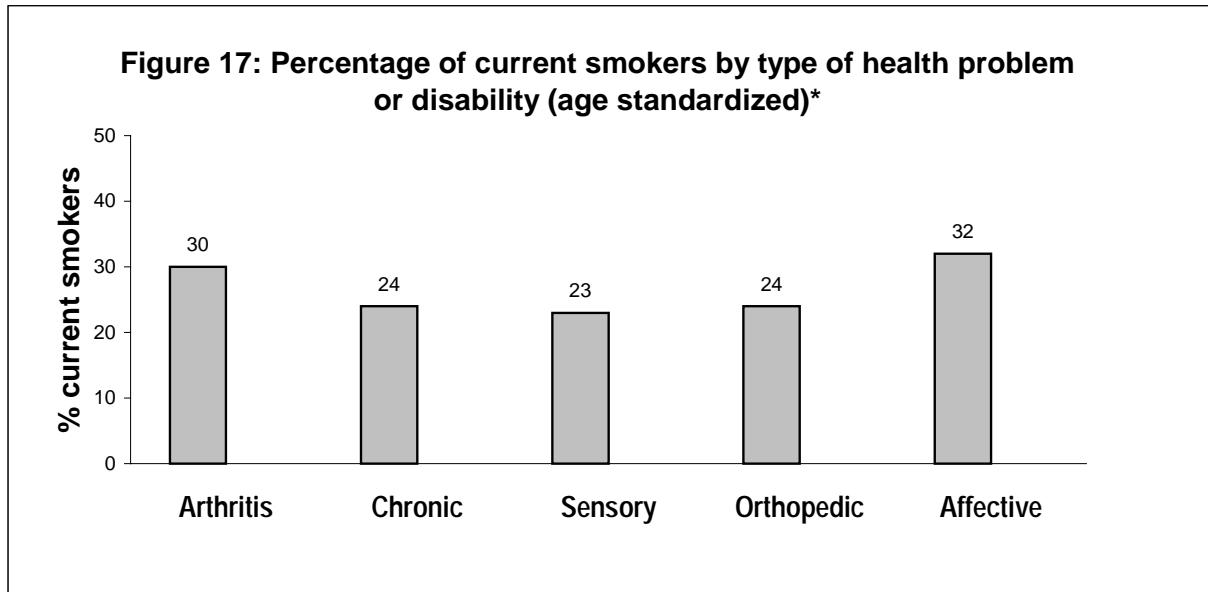
Overall, adults with disabilities were more likely to be current smokers (25%) compared to those without disabilities (19%). Smoking rates were highest among persons with disabilities who needed assistance (30%) (Figure 16).

As age increased, smoking rates decreased among those with and without disabilities. Smoking rates were much lower for individuals over 65 compared to younger individuals.



Source: MA BRFSS 1998-2000

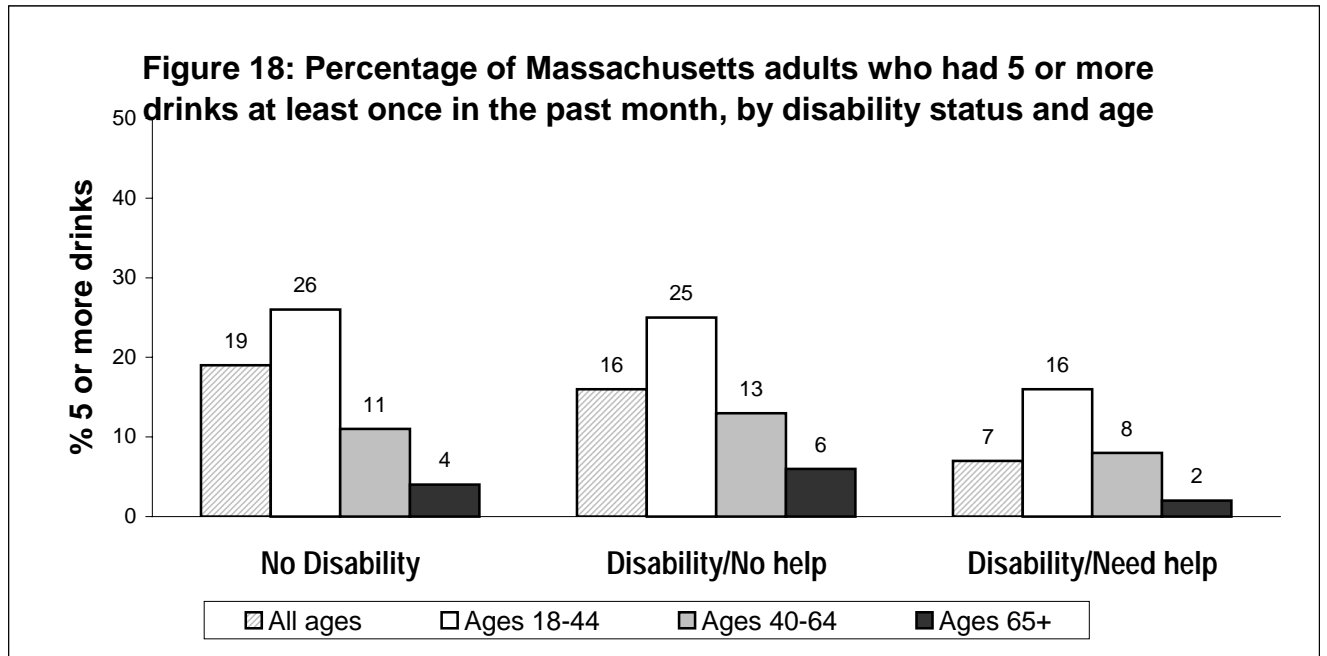
Among adults with disabilities, the percentage of those currently smoking varied by the type of health problem or disability. Figure 17 shows that individuals with affective disabilities and arthritis were most likely to be current smokers.



Source: MA BRFSS 1998-2000 *Age standardized to the 1998-2000 BRFSS population with disabilities.

Alcohol: Binge Drinking

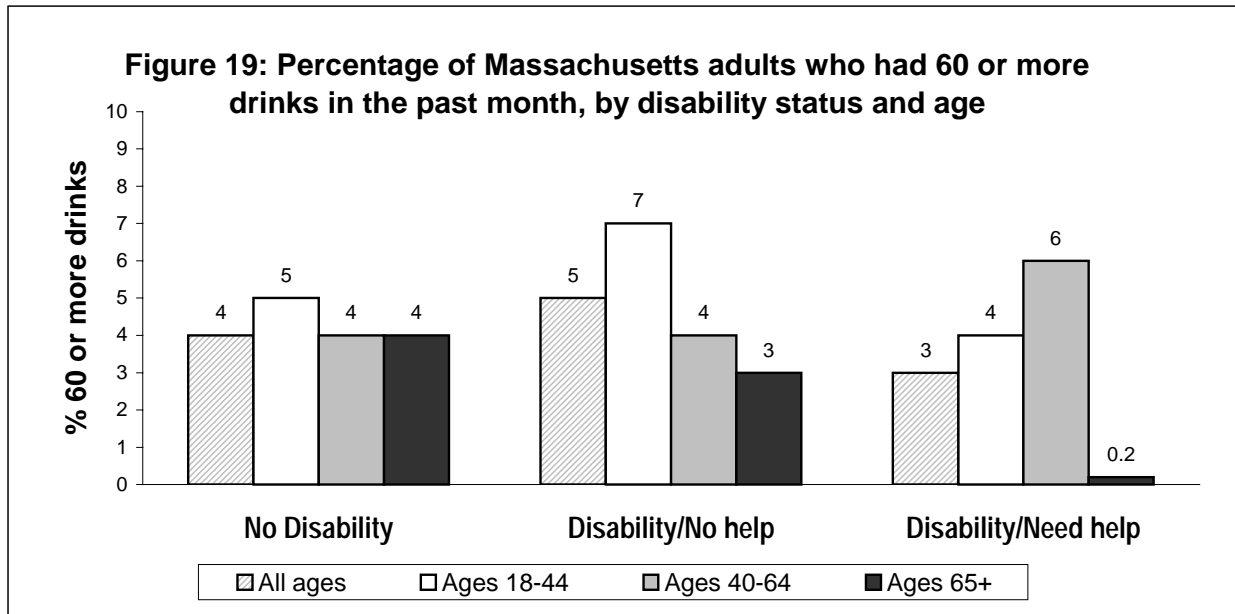
Binge drinking was defined as consumption of five or more drinks on any one occasion. Overall, adults without disabilities were slightly more likely to be binge drinkers (19%) than adults with disabilities (13%). Binge drinking decreased as age increased among those with and without disabilities. Binge drinking was lowest among adults with disabilities who needed assistance, particularly among those age 65 and older (Figure 18).



Source: MA BRFSS, 1999

Alcohol: Heavy Drinking

Heavy drinking was defined as 60 or more drinks in the past month. There was essentially no difference in heavy drinking between adults with disabilities who needed assistance (3%), those with disabilities who did not need assistance (5%) and those without disability (4%) (Figure 19). Heavy drinking was particularly low among the oldest group of individuals with disabilities who needed assistance.

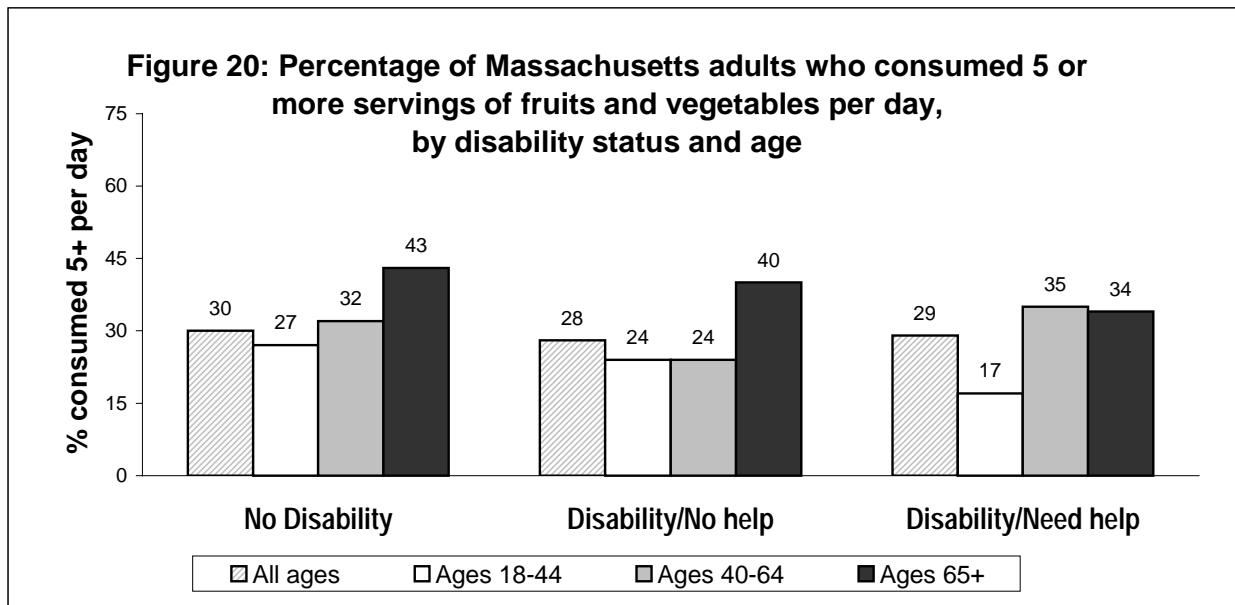


Source: MA BRFSS, 1999

Fruit and Vegetable Consumption

Overall, there was essentially no difference in the consumption of fruit and vegetables between adults with or without disabilities (Figure 20).

Consumption of five or more daily servings of fruits and vegetables generally increased in all groups as age increased. The youngest group of individuals with disabilities who needed assistance (age 18-44) were slightly less likely to consume adequate fruits and vegetables (17%) when compared to the same age group of individuals without disability (27%) and those with disabilities who did not need assistance (24%).

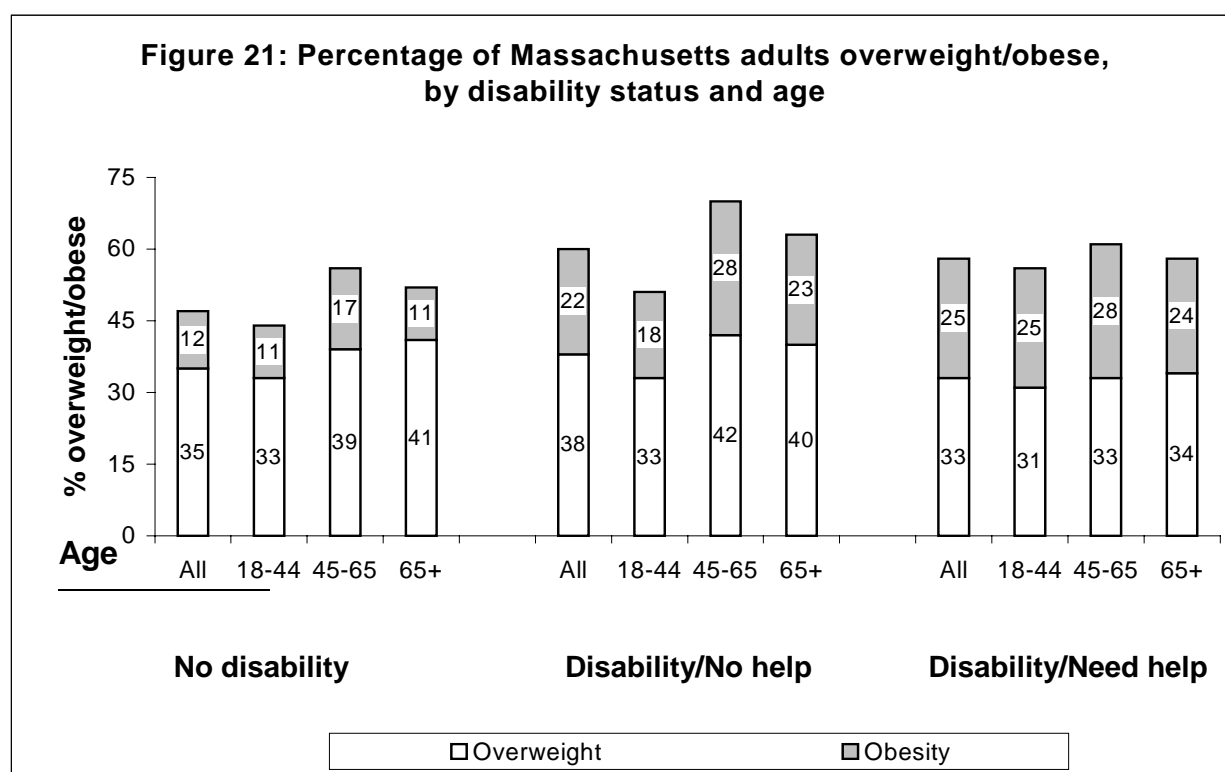


Source: MA BRFSS, 1998, 2000

Weight Control

All respondents self-reported height and weight. Using Body Mass Index (BMI), calculated by dividing weight in kilograms by height in meters squared, individuals were categorized on weight status. Based on Healthy People 2010 standards, adults with a BMI greater than 25 are considered overweight and those with a BMI greater than 30 are considered obese.

Figure 21 shows that there was little difference in the percentage of individuals who were overweight, but not obese, based on disability status or age group. However, obesity was more common in adults with disabilities, compared to adults without disabilities within all age groups.

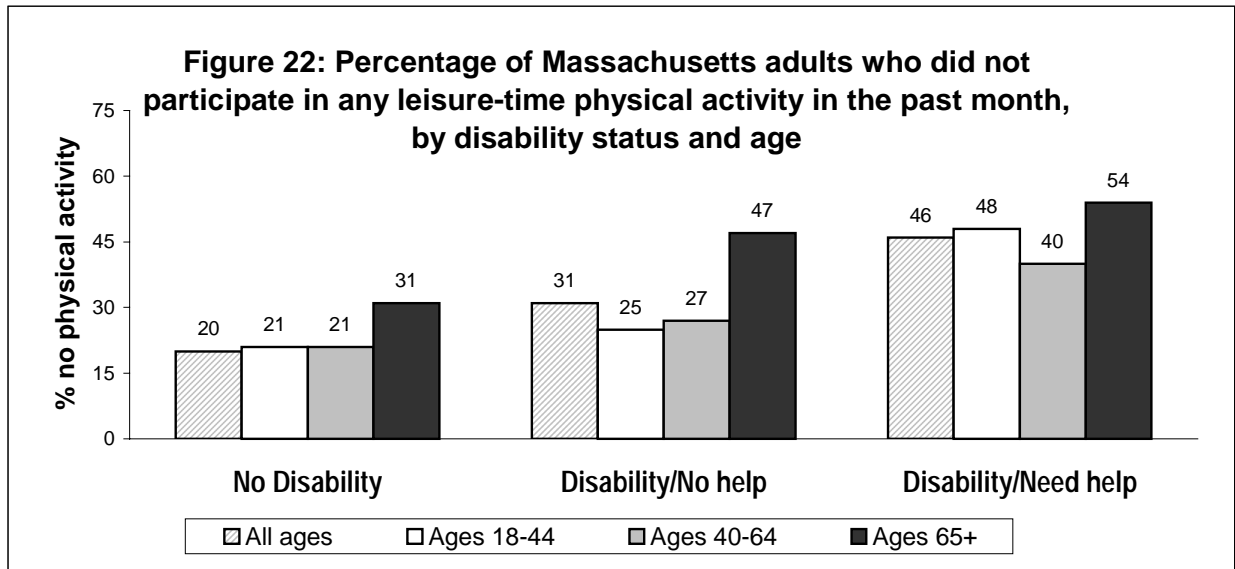


Source: MA BRFSS 1998-1999

Physical Activity

Figure 22 shows that almost half of adults with disabilities who need assistance (46%) and almost one-third of adults with disabilities who did not need assistance (31%) reported no leisure-time physical activity in the past month, compared to 22% of adults without disabilities.

Inactivity was similar in individuals without disabilities and individuals with disabilities who did not need assistance, among those under age 65. However, among adults 65 and older, inactivity was higher for those with disabilities who did not need assistance (47%), compared to those without disabilities (31%). Inactivity was high for those with disabilities who needed assistance, regardless of age.

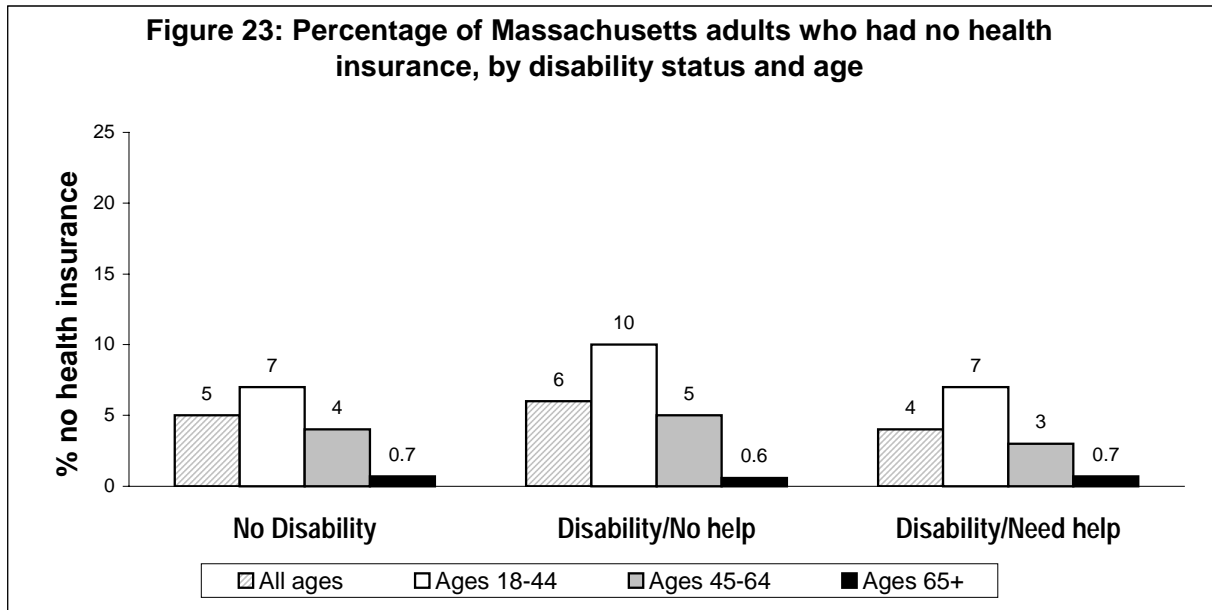


Source: MA BRFSS, 1998, 2000

C. Health Care Access and Utilization

No Health Insurance

There was little difference in health insurance coverage for those with disabilities who did not need assistance (5%) and those without disabilities (5%). Having no insurance decreased with increasing age for all groups.

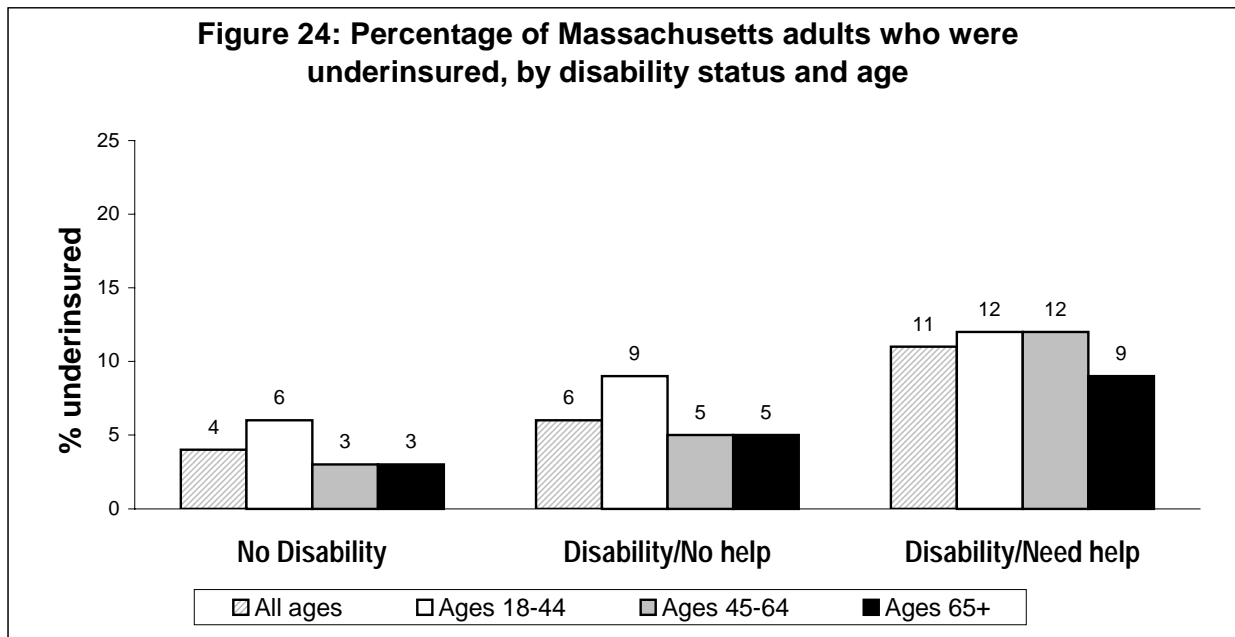


Source: MA BRFSS, 1998-2000

Inadequate Health Insurance

Having health insurance but being unable to afford out-of-pocket medical expenses may also have adverse health consequences. Those who had health insurance but were unable to see a doctor because of cost were classified as underinsured.

Individuals with disabilities who needed assistance were more likely to be underinsured (11%), than individuals who did not have disabilities (4%). Among adults with disabilities who did not need assistance and adults without disabilities, younger people, age 18-44, were slightly more likely to be underinsured, when compared to those 45 and older. Age was not a factor in being underinsured among adults with disabilities who needed assistance (Figure 24).

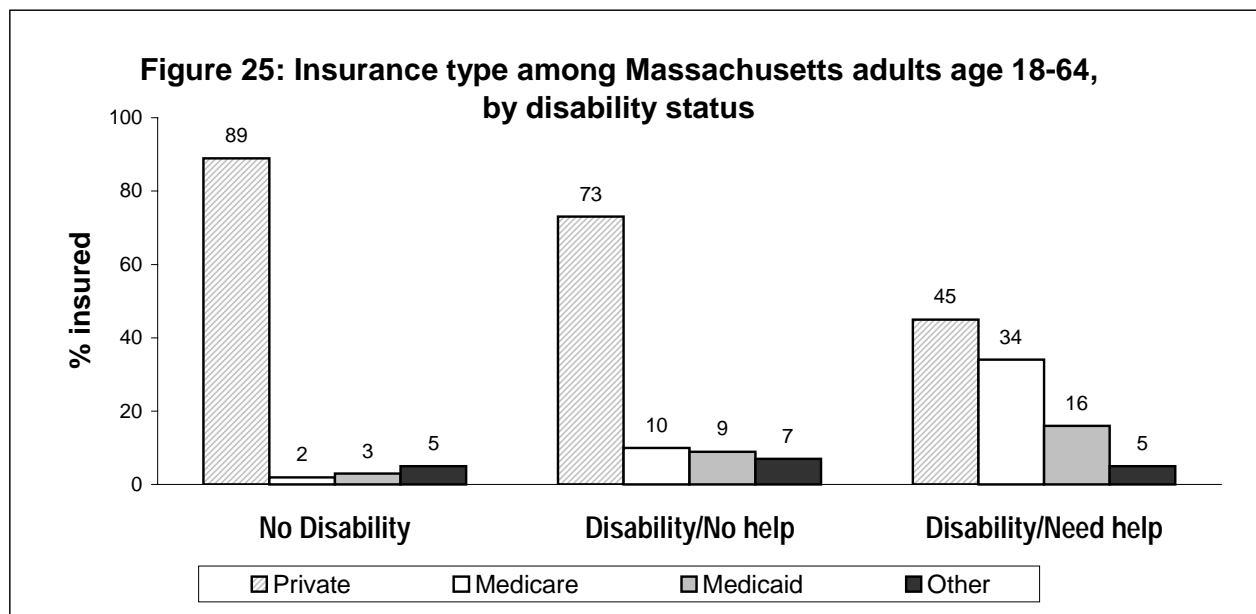


Source: MA BRFSS, 1998-1999

Type of Insurance

Health insurance was classified as private (i.e., paid for by an employer or individual), Medicare, Medicaid, or other. Among individuals younger than age 65, insurance type varied widely by disability status. The majority of adults without disabilities (89%), and adults with disabilities who did not need assistance (73%) had private insurance, while only 45% of adults with disabilities who needed assistance had private insurance (Figure 25). Of adults with disabilities who needed assistance, 50% reported having Medicare (34%) or Medicaid (16%).

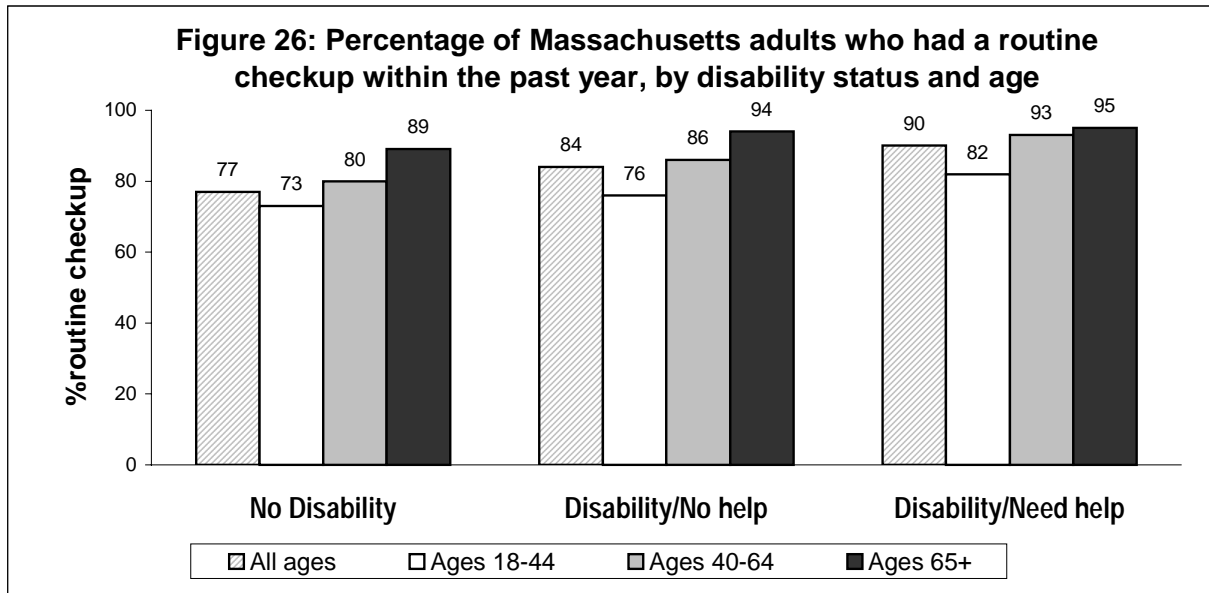
Almost all individuals age 65 and older, regardless of disability status, were covered by Medicare. Only 11 percent of those without disability, 12 percent of those with disabilities who did not need help and five percent of those with disabilities who needed help had private insurance.



Source: MA BRFSS, 1998-2000

Routine Checkup

Individuals with disabilities were slightly more likely to have seen a doctor for a routine checkup in the past year (86%) compared to individuals without disabilities (77%). Figure 26 shows that having a routine checkup within the last year increased as age increased among adults with disabilities and without disabilities. Within each age group, adults with disabilities were slightly more likely to have had a checkup, compared to adults without disabilities.

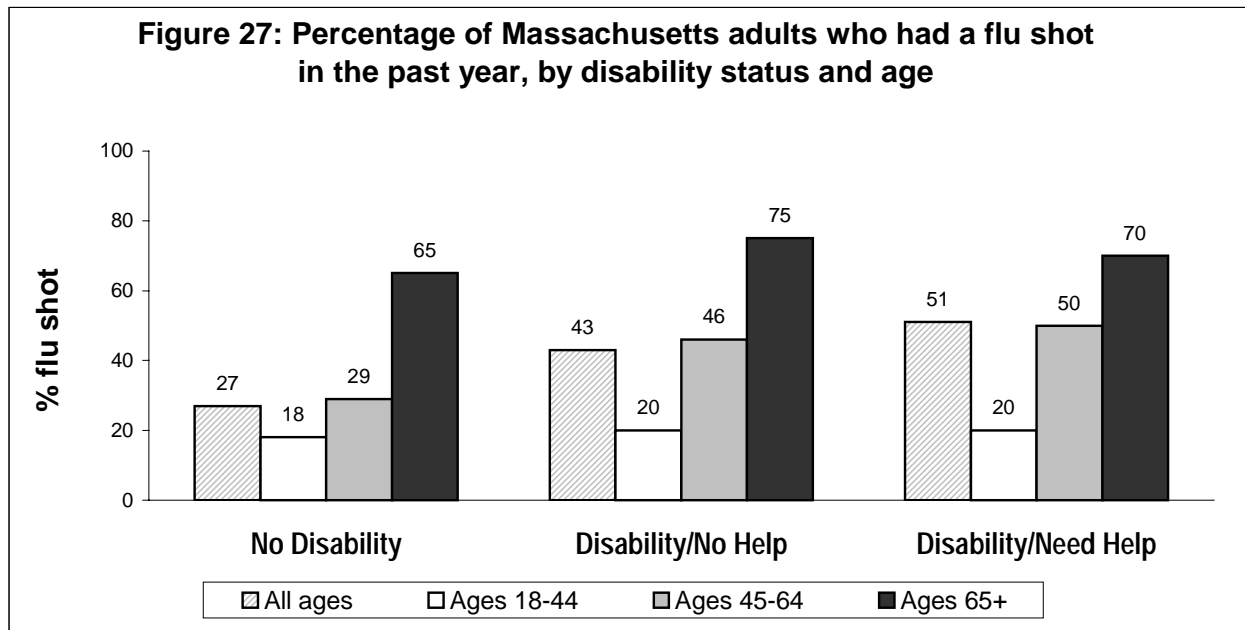


Source: MA BRFSS, 1998-2000

Immunization: Flu shot in past year

Individuals with disabilities were more likely to have had a flu shot in the past year (45%) compared to individuals without disabilities (27%). Figure 27 shows that having a flu shot increased greatly with age among people with and without disabilities.

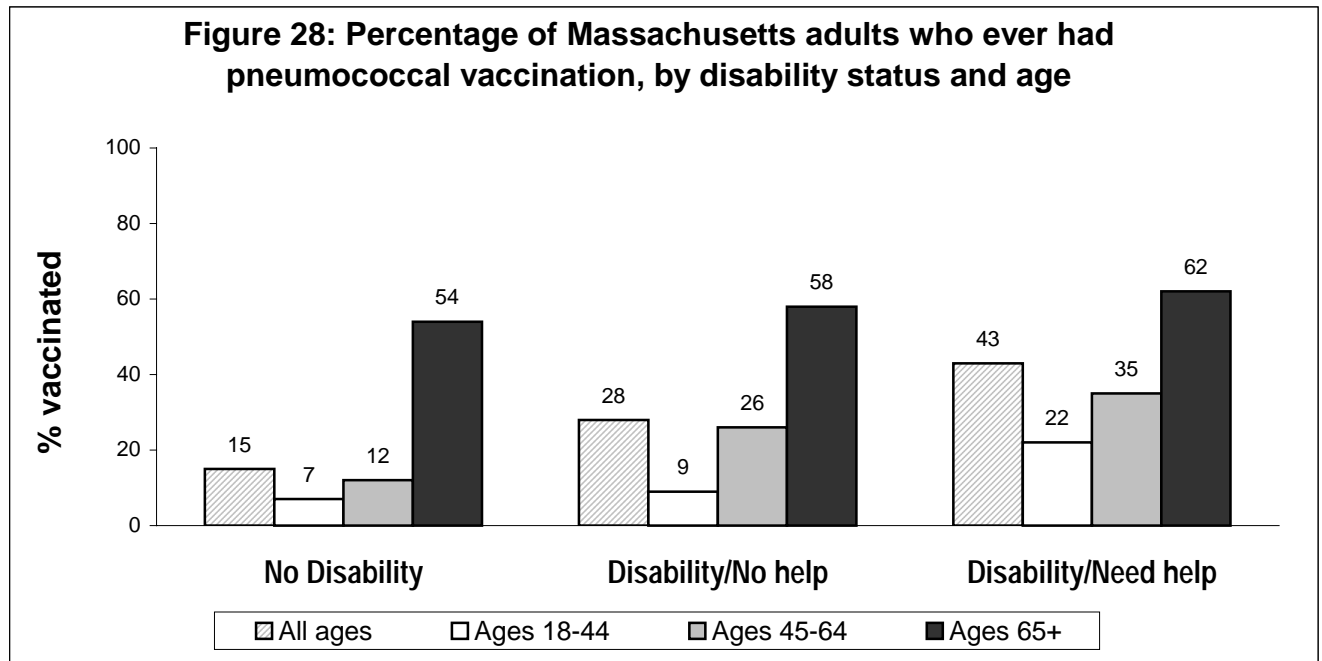
Having a flu shot did not vary by disability status among the youngest (age 18-44) and oldest age groups (age 65 and older). However, among those age 45-64, adults with disabilities were much more likely to have had a flu shot, than adults without disabilities.



Source: MA BRFSS, 1999

Immunization: Pneumococcal vaccination

Adults with disabilities were twice as likely to have ever received a pneumococcal vaccination (32%) compared to adults without disabilities (15%). Figure 28 shows that having a pneumococcal vaccine increased with age among people with and without disabilities. For those 65 and older, there was little difference in the percent of pneumococcal vaccination based on disability status. For those under age 65, pneumococcal vaccine percentages were higher among adults with disabilities, particularly among those who needed assistance.

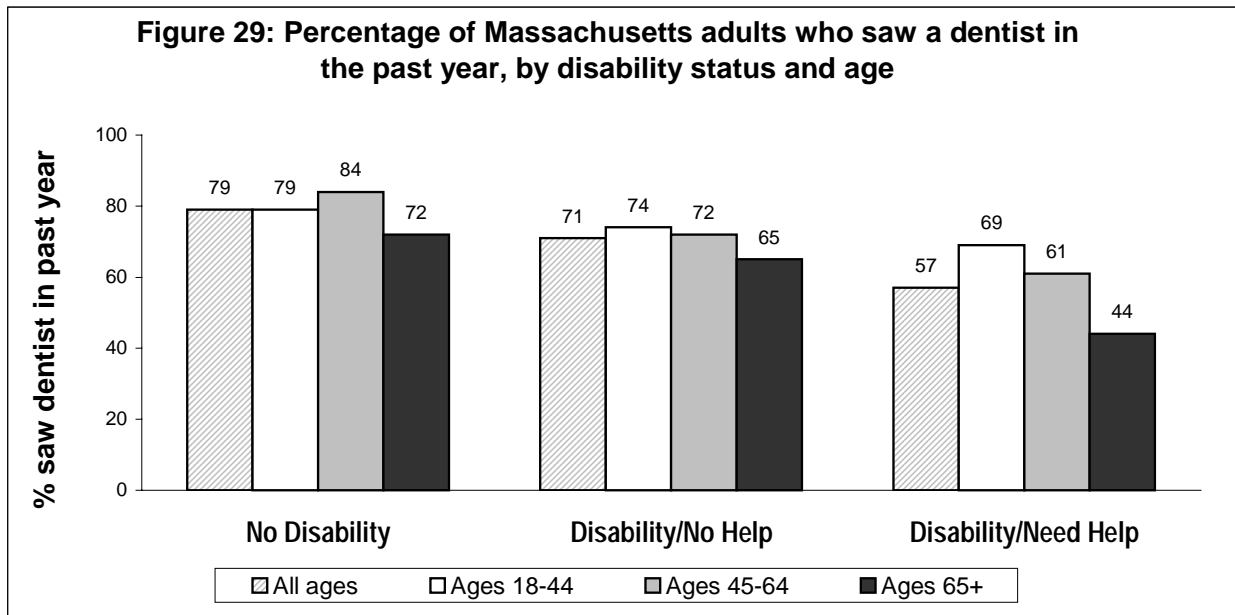


Source: MA BRFSS, 1999

Dental Visit in Past Year

Individuals with disabilities were less likely to have seen a dentist in the past year (67%), when compared to individuals without disabilities (79%).

Figure 29 shows that compared to younger individuals, those 65 and older were less likely to have seen a dentist, regardless of disability status. In all age groups, adults with disabilities who did not need assistance were a little less likely to have seen a dentist, compared to adults without disabilities. People who needed assistance of all ages, but particularly those age 45 and older, were the least likely to have seen a dentist.

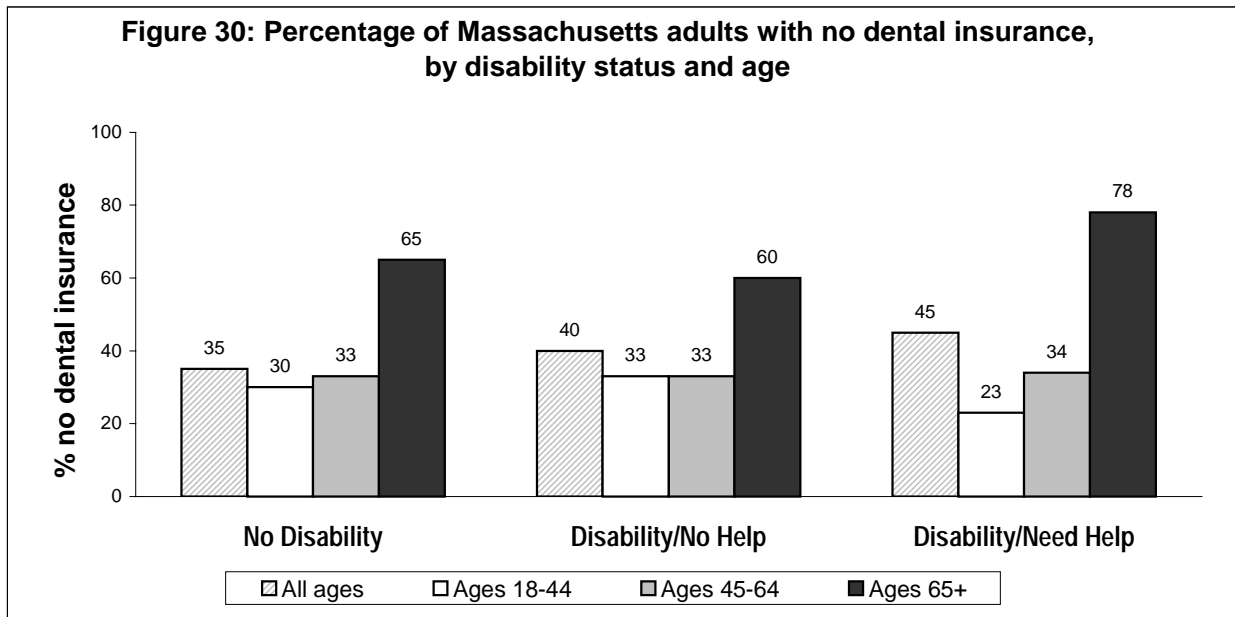


Source: MA BRFSS 1998-2000

Dental Insurance

Figure 30 shows that the percentage of people without dental insurance was similar among adults with disabilities who did not need help and adults without disabilities, within all age categories.

Having no dental insurance increased greatly for people 65 and older, regardless of disability status. People age 65 and older with disabilities who needed assistance were considerably more likely to be uninsured, while people age 18-44 with disabilities who needed assistance were slightly less likely to be uninsured.

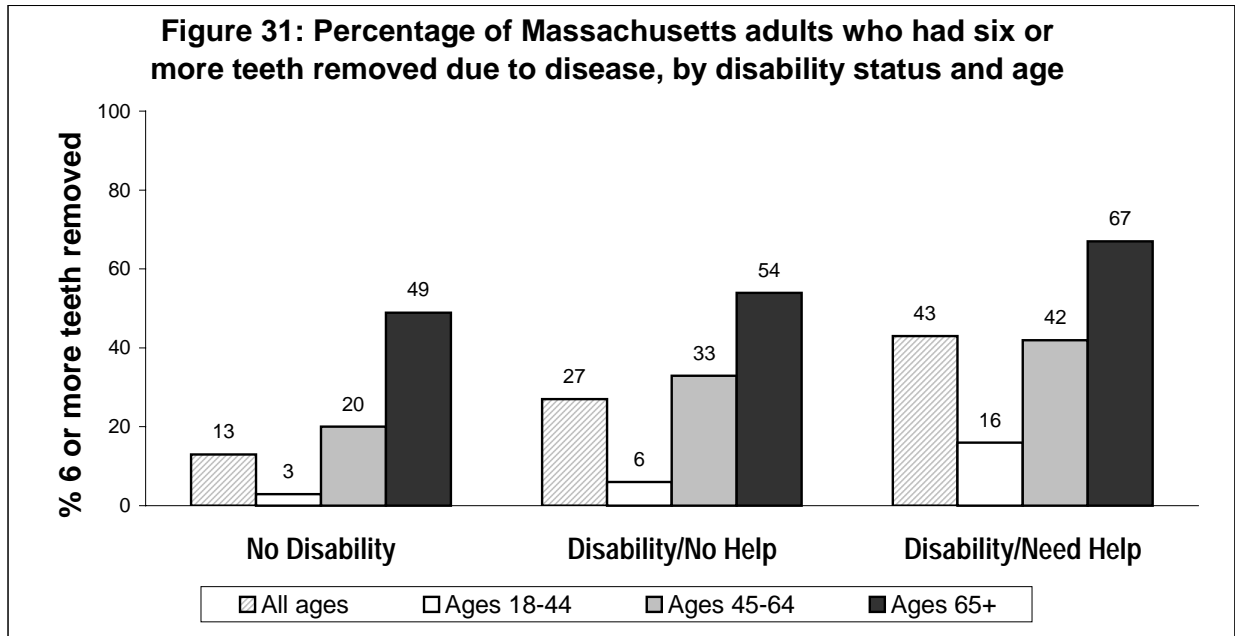


MA BRFSS, 1998, 2000

Six or More Teeth Removed Due to Disease

Individuals with disabilities were more likely to have had six or more teeth missing due to disease (31%), compared to individuals without disabilities (13%).

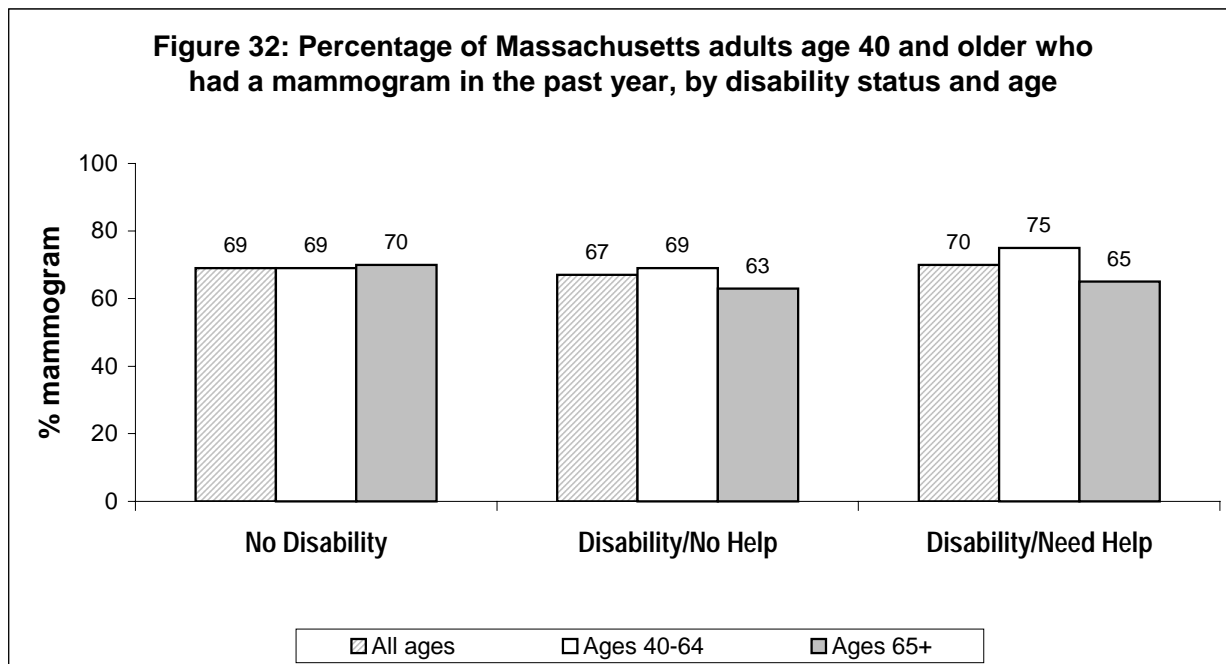
Figure 31 shows that substantial tooth loss increased sharply with age for people with and without disabilities. Compared to adults without disabilities, those with disabilities who needed assistance, were more likely to have substantial tooth loss, regardless of age.



Source: MA BRFSS, 1998-2000

Breast Cancer: Mammogram

The American Cancer Society recommends that women age 40 and older have an annual mammogram. Figure 32 shows that among women 40 and older, there was essentially no difference in annual mammography rates based on disability status or age.

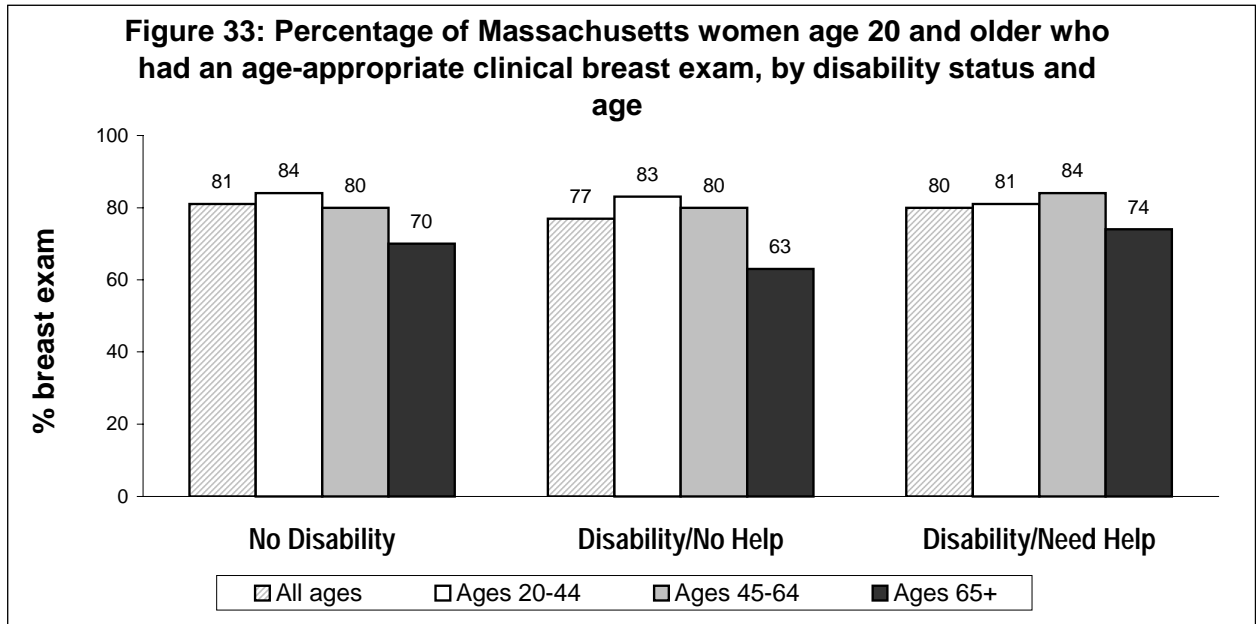


Source: MA BRFSS 1998-2000

Breast Cancer: Clinical Breast Exam

The American Cancer Society recommends that women age 20 to 39 have a clinical breast exam every three years and that women age 40 and older have an annual clinical breast exam.

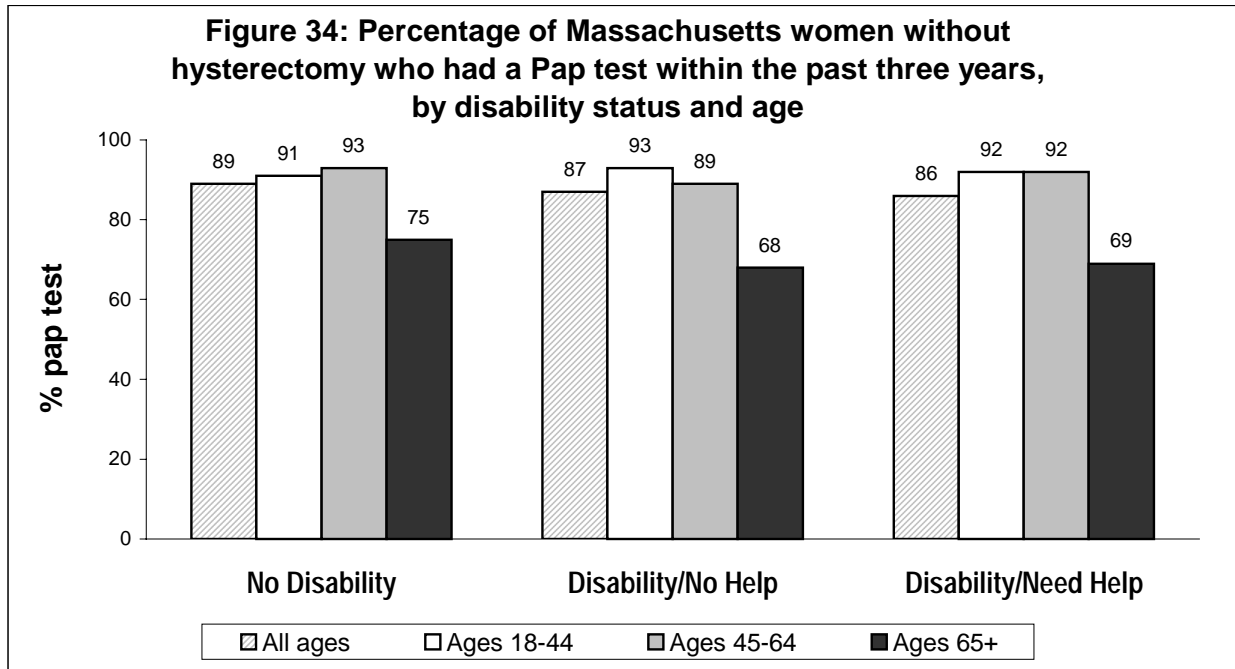
Figure 33 shows that regardless of disability status, there was essentially no difference in the percentage of women age 20 and older who had age-appropriate clinical breast exams. Clinical breast exams were slightly lower for women 65 and older, among women with and without disabilities.



Source: MA BRFSS 1998, 2000

Cervical Cancer

Figure 34 shows the percentage of women, age 18 and older and who have not had a hysterectomy, who received a Pap test within the past 3 years. There was little difference in the percentage of women who received a pap test in the past 3 years, based on disability status. Rates were lowest for all women age 65 and older.



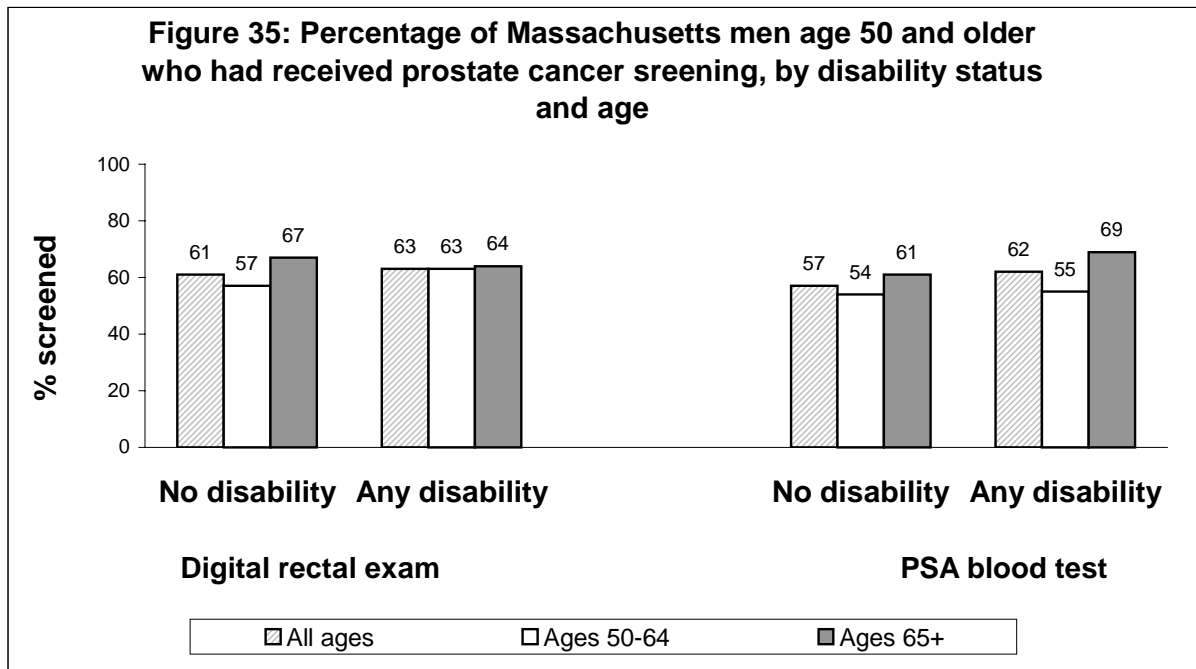
Source: MA BRFSS, 1998-1999

Prostate Cancer

The American Cancer Society recommends that men over the age of 50 have an annual digital rectal exam and annual PSA blood test.

Figure 35 shows that there is essentially no difference in the percentage of men over 50 who had a digital rectal exam in the past year, based on disability status. Sixty-three percent of men with disabilities and 61% of men without disabilities reported having the exam in the past year. The percent of annual digital rectal exam increased slightly with age among men without disabilities, but did not vary by age among men with disabilities.

There was also little difference in the percentage of men over age 50, with and without disabilities, who had a PSA blood test in the past year. Sixty-two percent of men with disabilities and 57% of men without disabilities had this test in the past year.



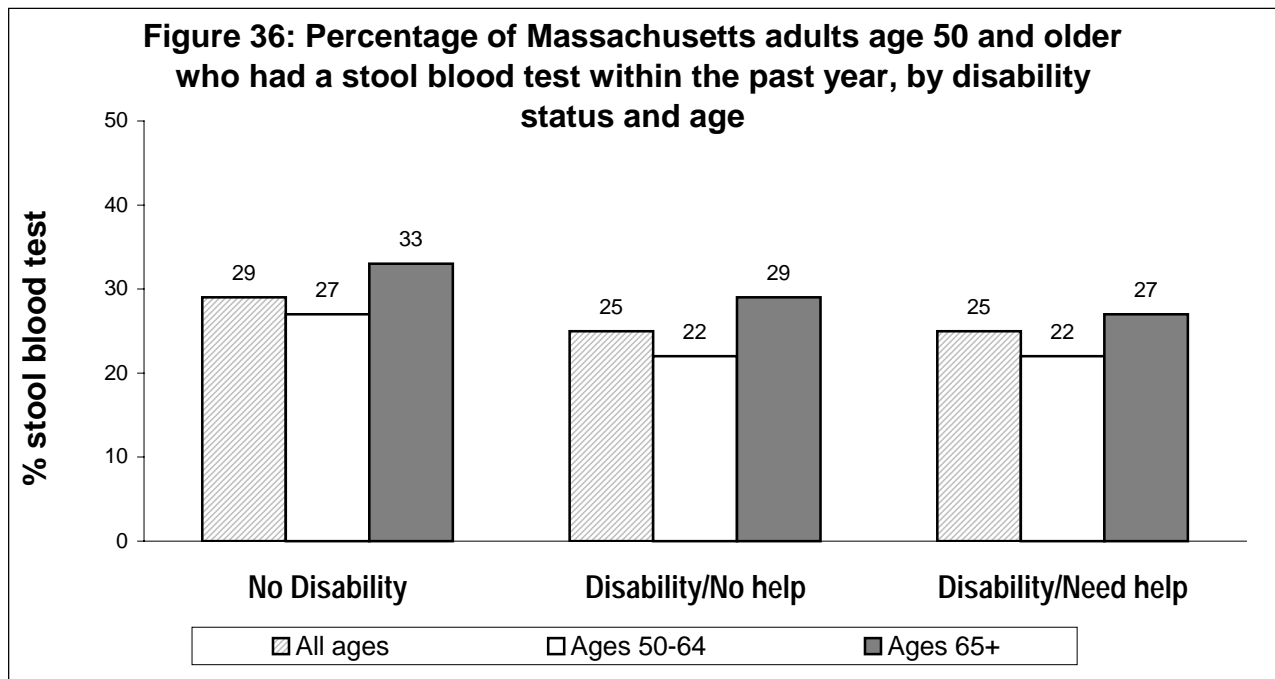
Source: MA BRFSS, 1999-2000

Colorectal Cancer

The Massachusetts Colorectal Cancer Working Group recommendations for men and women 50 and older include yearly blood stool test, a flexible sigmoidoscopy every five years, and a colonoscopy every ten years.

Stool blood test

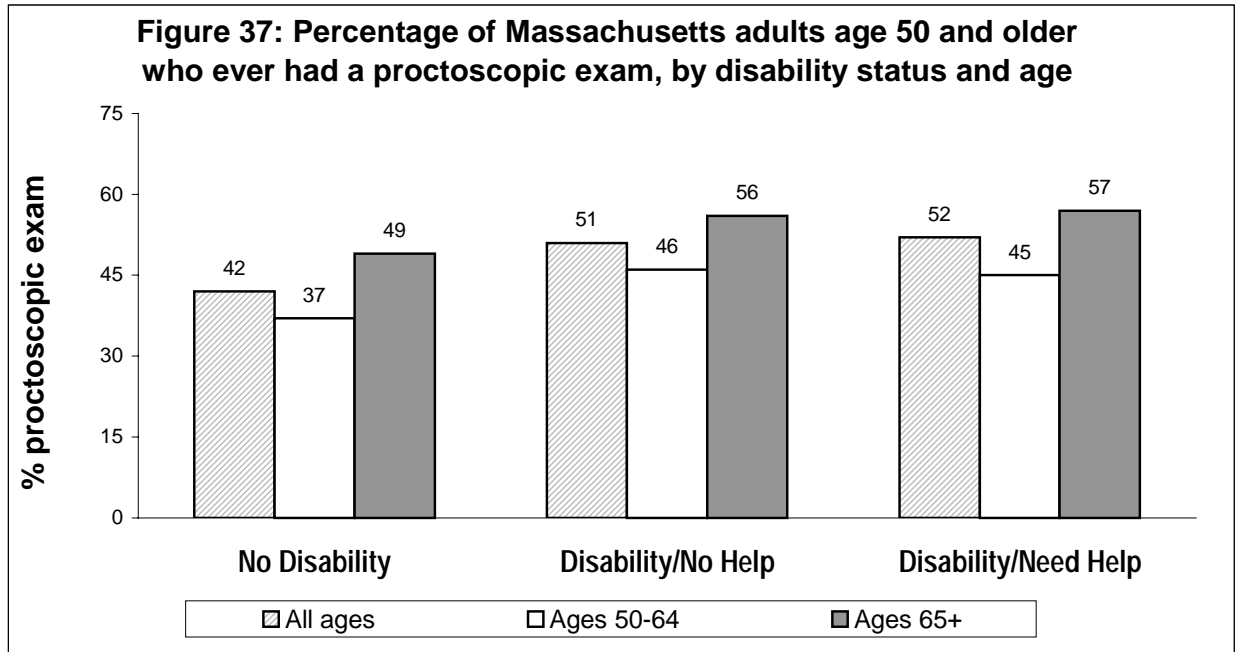
Figure 36 shows that among individuals 50 and older, there was little difference in having an annual stool blood test based on disability status or age.



Source: MA BRFSS, 1999, 2000

Proctoscopic exam

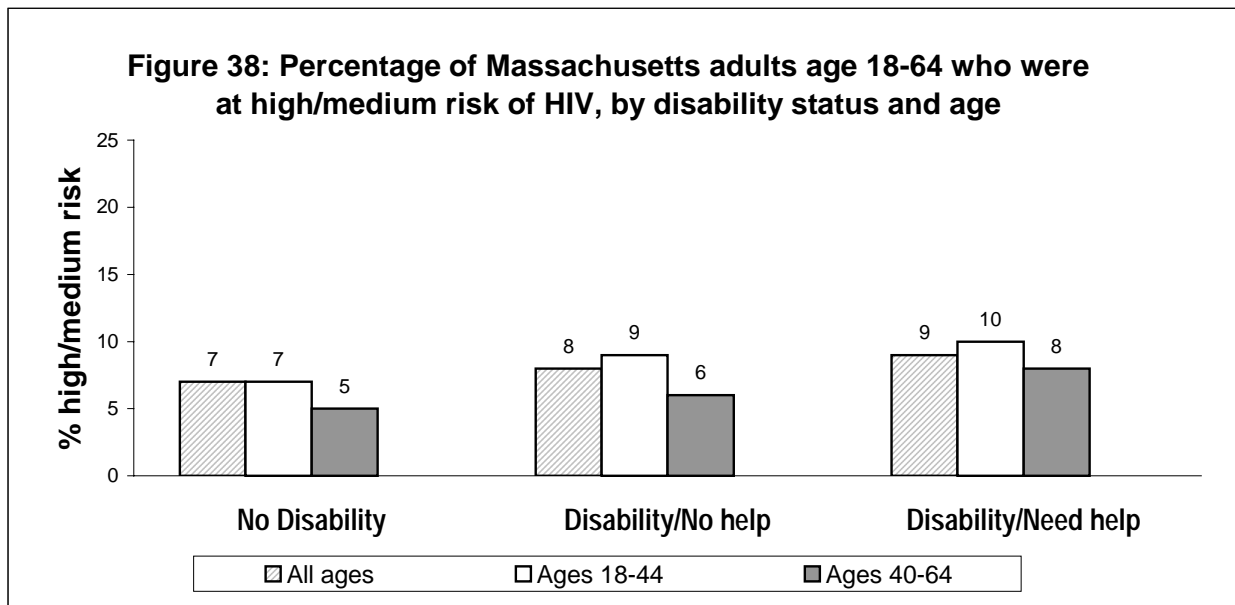
Adults with disabilities were more likely to ever have a proctoscopic exam (ie, sigmoidoscopy, colonoscopy) (51%), compared to adults without disabilities (42%). Within each group, older individuals were slightly more likely to have had a proctoscopic exam compared to younger individuals (Figure 37).



Source: MA BRFSS, 1999, 2000

Risk of HIV

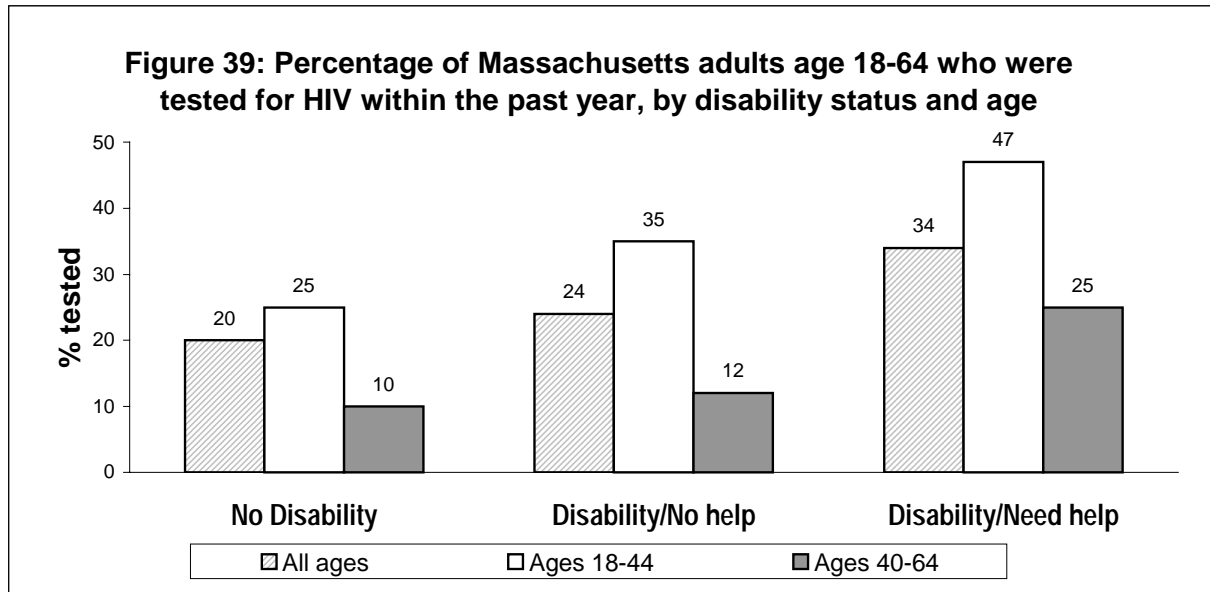
Adults age 18-64 were asked whether their chances of getting infected with HIV were high, medium, low or none. Figure 38 shows there were essentially no differences in the percentage of people with a high or medium risk of infection based on disability status or age.



Source: MA BRFSS, 1998-2000

HIV testing

Overall, 27% of adults with disabilities and 20% of adults without disabilities were tested for HIV within the past year. Figure 39 shows that adults with disabilities who needed assistance were more likely to have been tested for HIV within the past year among both age groups.



Source: MA BRFSS, 1998-2000

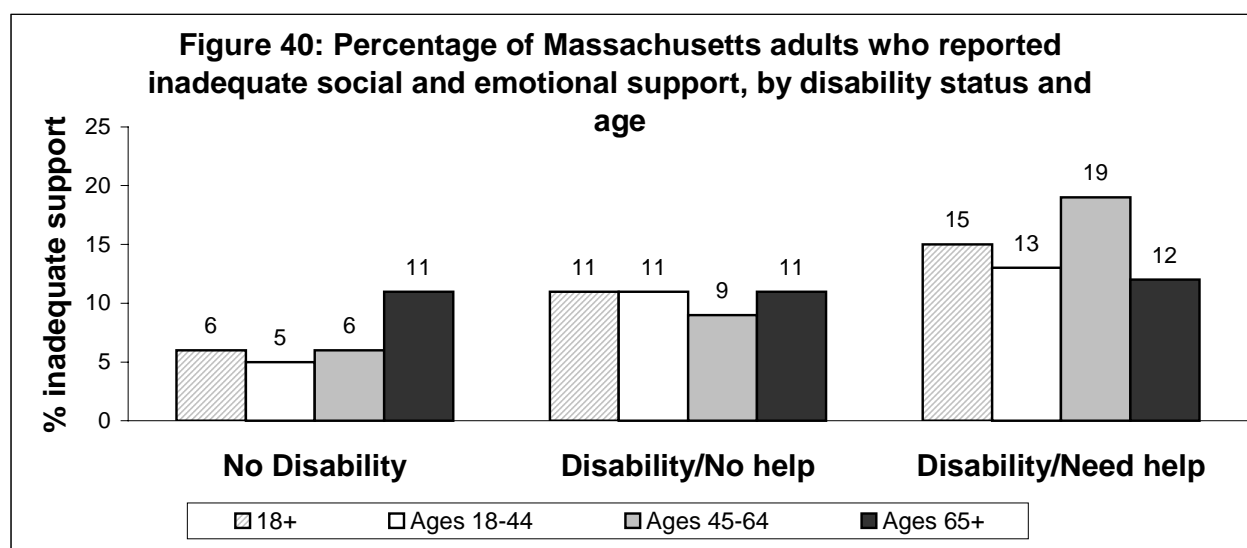
D. Quality of Life

Social and Emotional Support

All respondents were asked, “How often do you get the social and emotional support you need?” Inadequate social and emotional support was defined as rarely or never receiving needed support. 12% of adults with disabilities reported inadequate social and emotional support, compared to six percent of those without disabilities.

Among people under age 65, adults with disabilities who needed assistance were more likely than those without disabilities to report inadequate social and emotional support (Figure 40). The difference was greatest for those in the 45-64 age category. Of the adults with disabilities who needed assistance, 19% received inadequate support, compared to six percent of adults without disabilities.

However, among those age 65 and older, there was essentially no difference in the percentage of people reporting inadequate support based on disability status. Twelve percent of persons with disabilities who needed assistance and 11% of persons with disabilities who did not need assistance reported inadequate social and emotional support.

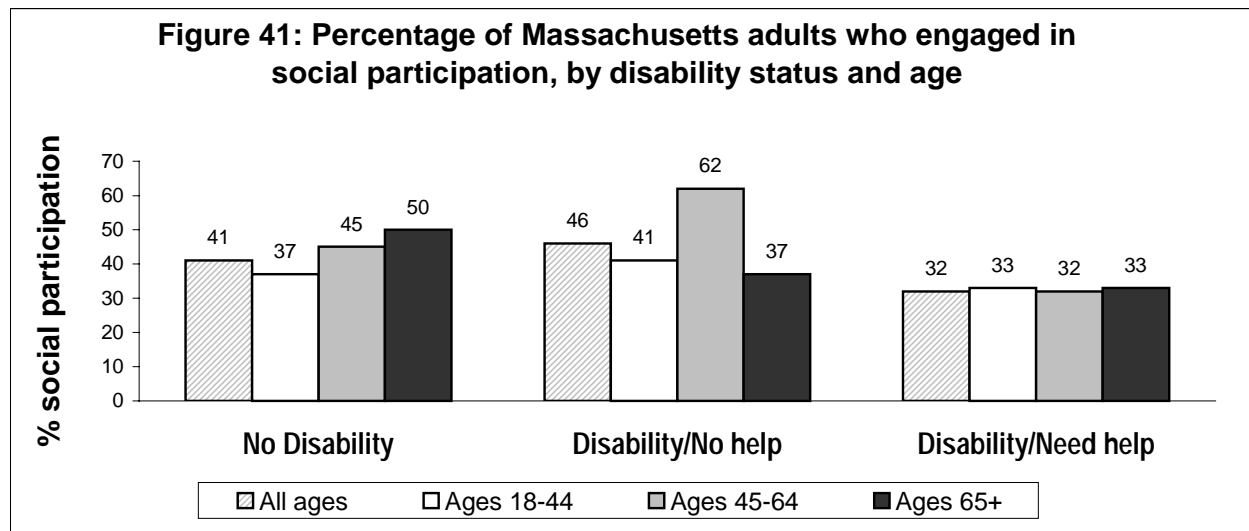


Source: MA BRFSS, 1998-2000

Social Participation

In 1998, adults were asked if they were active in any clubs or organizations, such as community, church, recreation, or volunteer groups. Overall, there was little difference in social participation among those with disabilities (43%) and those without disabilities (41%). Figure 41 shows that there was also little difference in social participation among 18-44 year olds by disability status. Within this age group, 33% of persons with disabilities who needed assistance, 41% of those with disabilities who did not need assistance and 37% of persons without disability were involved in group activities.

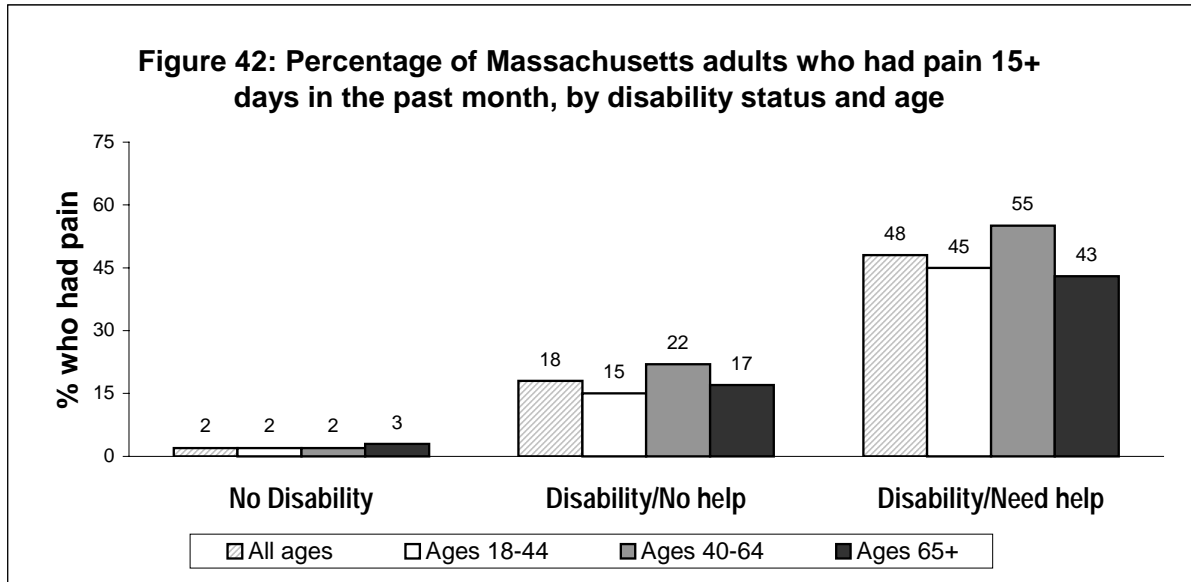
Social participation rates did not vary by age for adults with disabilities who needed assistance but varied considerably for those with disabilities who did not need assistance. In this group, social participation was higher among 45-64 year olds compared to younger and older individuals.



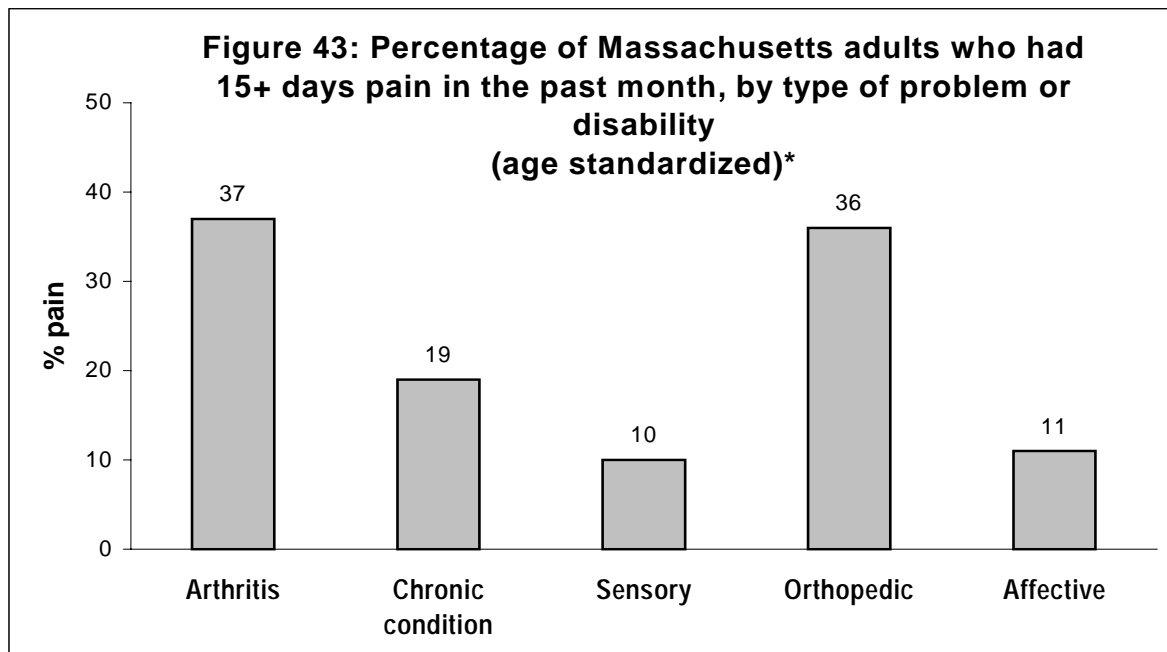
Source: MA BRFSS 1998

Pain

Adults with disabilities were much more likely to report 15 or more days of pain in the past month (26%) compared to adults without disabilities (2%). Figure 42 shows that adults with disabilities who needed assistance were most likely to report pain, regardless of age. The percentage of individuals reporting 15 or more days of pain did not vary by age for adults without disabilities and varied only slightly for adults with disabilities. Individuals with orthopedic conditions or arthritis were more likely than individuals with affective or sensory conditions to report 15 or more days of pain in the past month (Figure 43).



Source: MA BRFSS 1998-2000 *Age standardized to the 1998-2000 BRFSS population with disabilities.

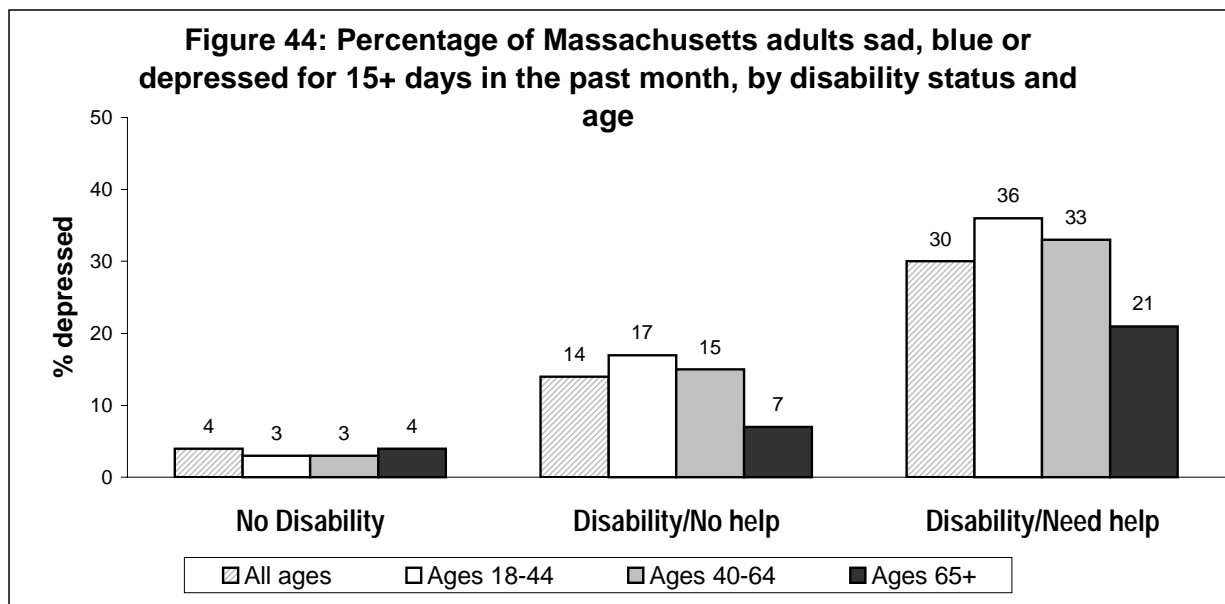


Source: MA BRFSS 1998-2000 *Age standardized to the 1998-2000 BRFSS population with disabilities.

Sad, Blue or Depressed

Adults with disabilities were much more likely to report 15 or more days being sad, blue or depressed in the past month (18%) when compared to adults without disabilities (4%). Figure 44 shows that individuals with disabilities who needed assistance were the most likely to feel depressed, regardless of age.

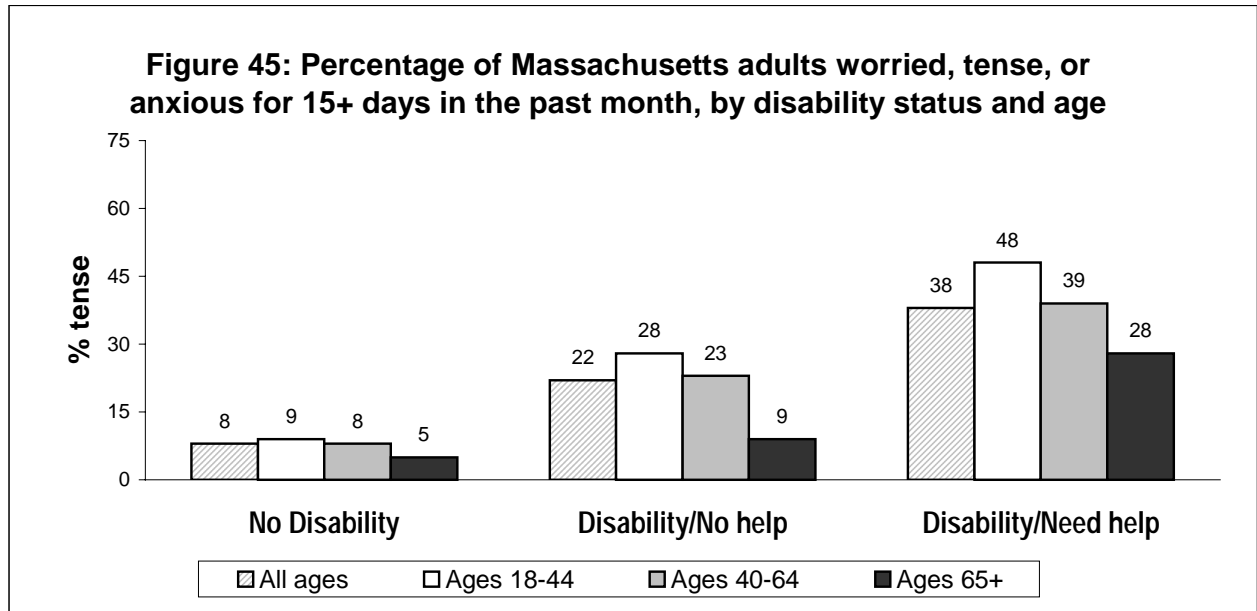
Among adults without disabilities, age was not associated with depression. However, among both groups of persons with disabilities, depression was lowest among those age 65 and older.



Source: MA BRFSS 1998-2000

Worried, Tense, or Anxious

Adults with disabilities were much more likely to report being worried, tense or anxious for 15 or more days in the past month (26%) compared to adults without disabilities (8%). Individuals who needed assistance were the most likely to feel this way, regardless of age (Figure 45). Feeling worried, tense or anxious generally decreased with increasing age among all groups.

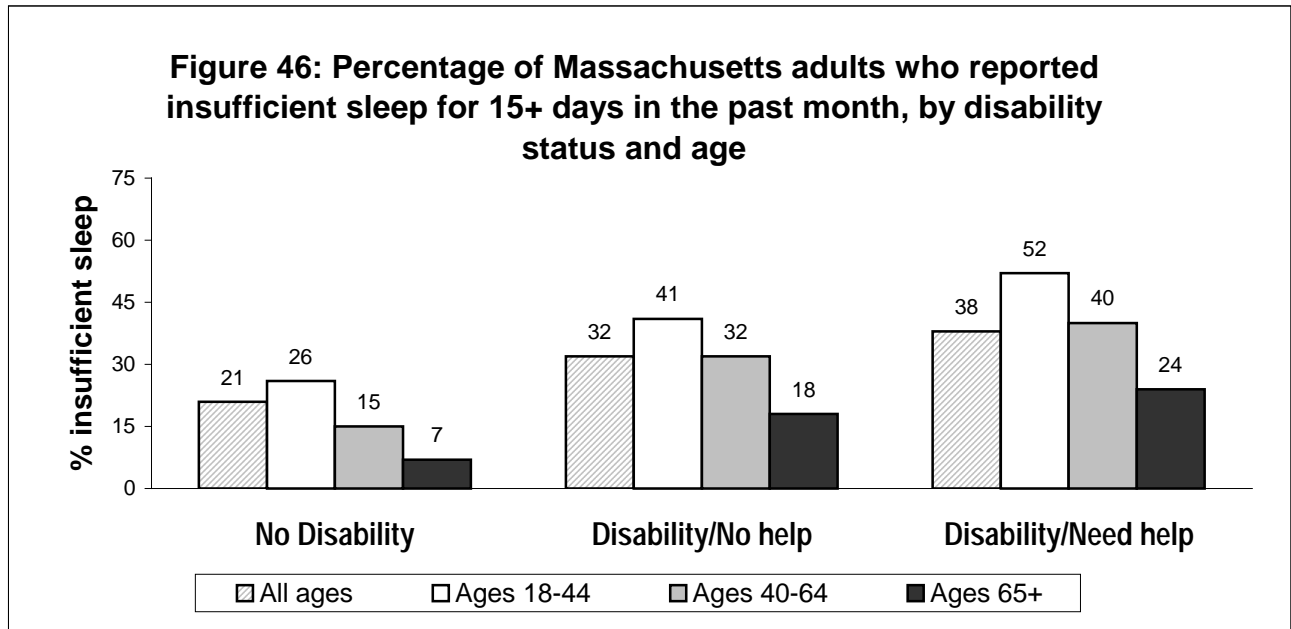


Source: MA BRFSS 1998-2000

Sleep

Adults with disabilities were more likely to report 15 or more days of insufficient sleep in the past month (34%) when compared to adults without disabilities (21%).

Figure 46 shows that, as age increased, the percentage of individuals reporting insufficient sleep for more than half of the month decreased among the people with and without disabilities.

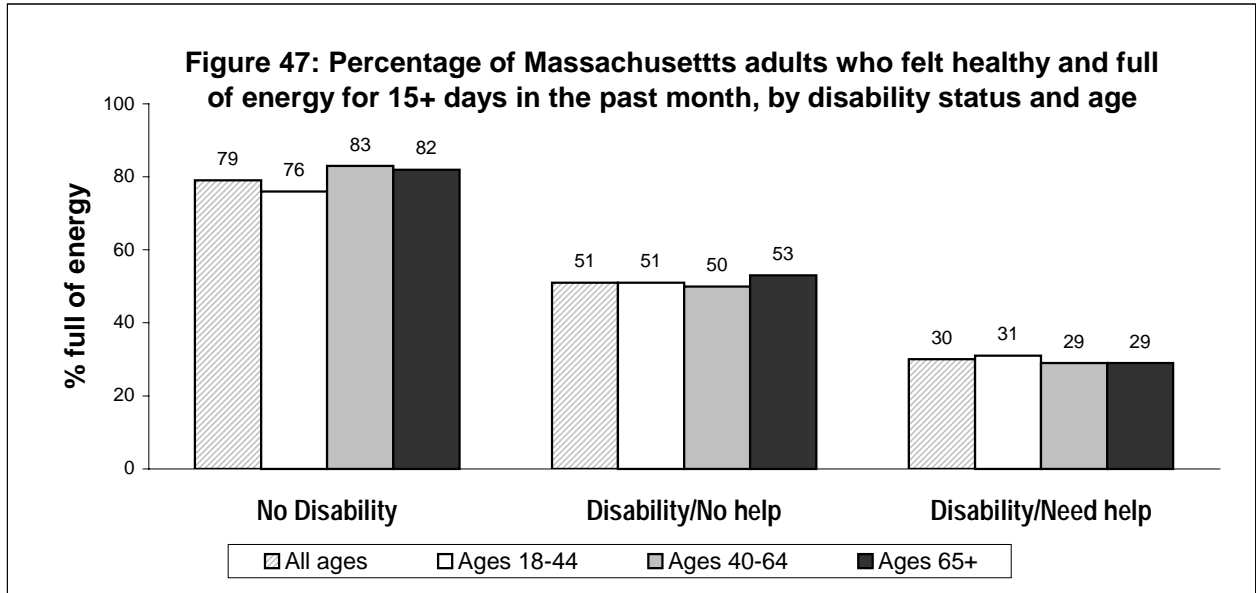


Source: MA BRFSS 1998-2000

Energy

Adults with disabilities were less likely to report that they felt healthy and full of energy for 15 or more days in the past month (46%) compared to adults without disabilities (79%).

Individuals with disabilities who needed assistance were the most likely to report not feeling healthy and full of energy. Age was not associated with feeling healthy and full of energy among people with and without disabilities (Figure 47).

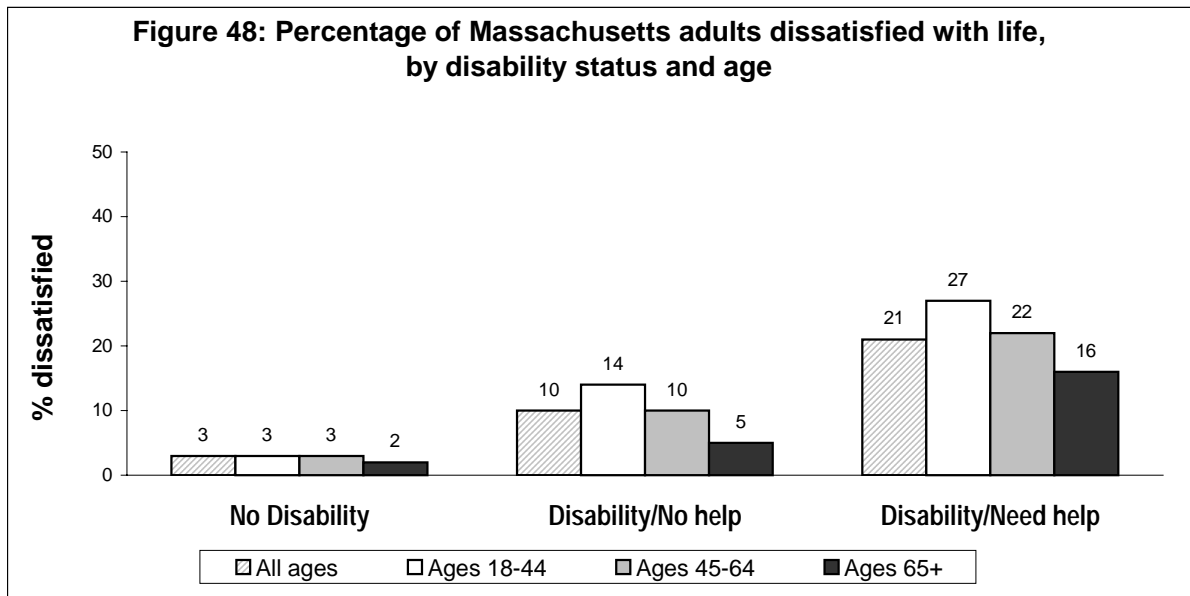


Source: MA BRFSS 1998-2000

Satisfaction with Life

All respondents were asked how satisfied they were with their life. Individuals with disabilities were much more likely to report being dissatisfied or very dissatisfied with life (13%) than adults without disabilities (3%).

Dissatisfaction with life was highest among adults with disabilities who needed help, regardless of age (Figure 48). The effect of age on satisfaction with life differed for adults with disabilities and without disabilities. Among those with disabilities, dissatisfaction with life decreased with increasing age while dissatisfaction did not change with age among those without disabilities.



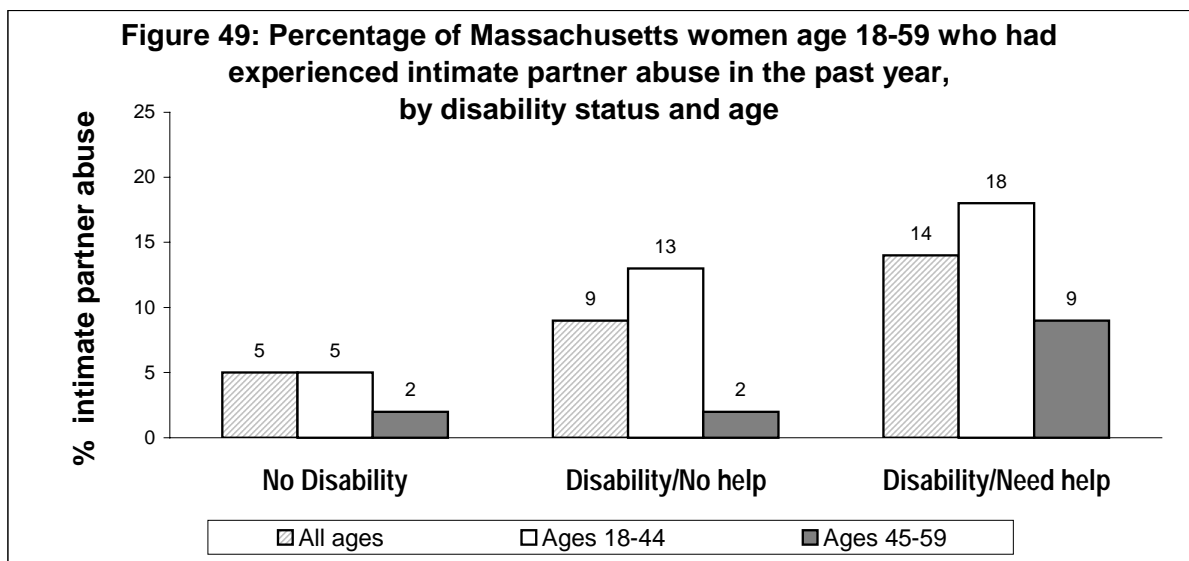
Source: MA BRFSS 1998-2000

Partner Violence

In 1998 all adults, and in 1999, women age 18-59 were asked questions about partner violence. They were asked whether they had experienced physical violence in the past year by a stranger or someone they knew, and if they felt fear or control by an intimate partner. Intimate partner abuse was defined as experiencing physical violence, fear, or control by a spouse, a live-in partner, or date in the past year.

Among women 18-59, women with disabilities were twice as likely to have experienced intimate partner abuse in the past year (10%), compared to women without disabilities (5%).

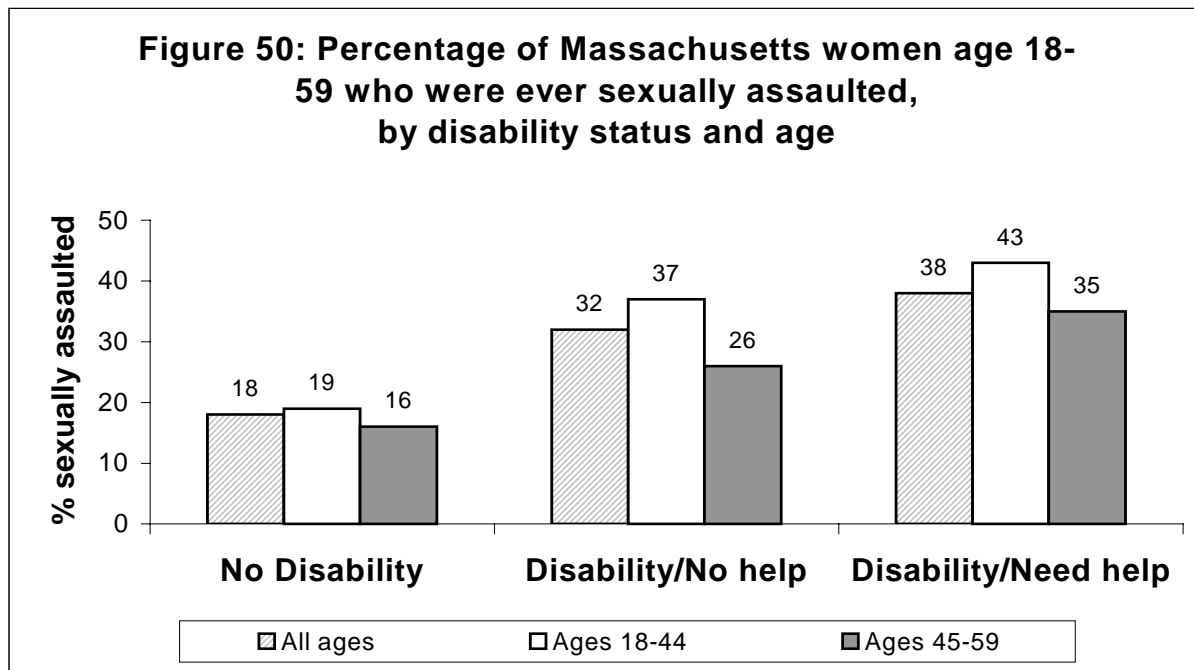
Younger women (age 18-44) experienced more intimate partner abuse compared to older women (age 45-59), regardless of disability status (Figure 49). Within each age category, women with disabilities who needed assistance were the most likely to have experienced intimate partner abuse.



Source: MA BRFSS, 1998-1999

Sexual Assault

In 1999 and 2000, women 18-59 were also asked if they had ever experienced unwanted sexual contact. Women with disabilities were much more likely to ever have experienced sexual assault, i.e., unwanted sexual contact (34%) compared to women without disabilities (18%). This was true for younger and older women. There was little difference in sexual assault based on severity of disability (Figure 50).



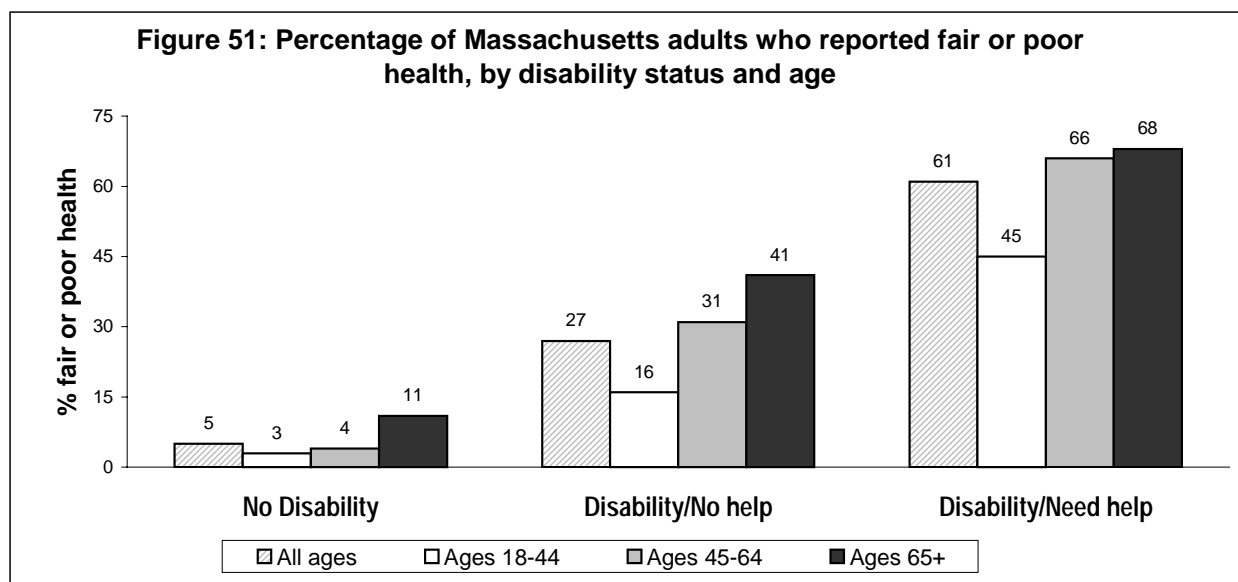
Source MA BRFSS, 1999-2000

E. Health Status

Fair or Poor Health

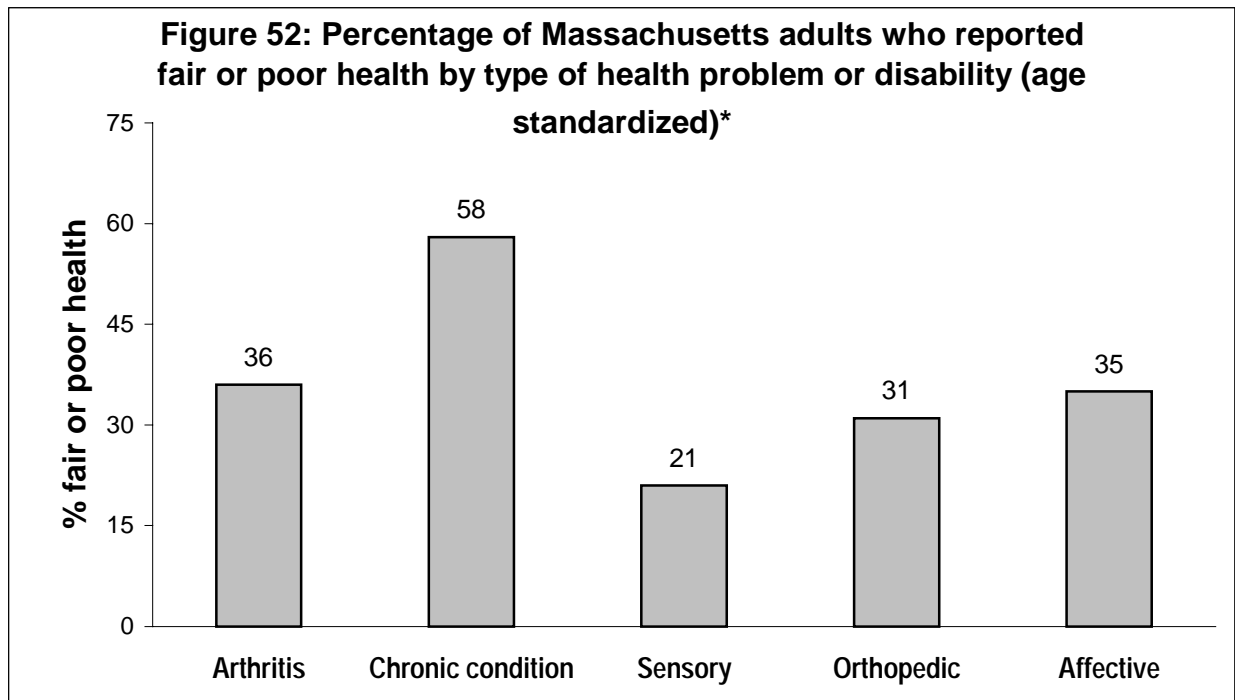
Respondents were asked, “Would you say that in general your health is excellent, very good, good, fair or poor?”

Adults with disabilities were much more likely to report fair or poor health (36%) compared to adults without disabilities (5%). Fair or poor health generally increased with age for people with and without disabilities. The percentage of people reporting fair or poor health was highest among those with disabilities who needed help, regardless of age (Figure 51).



Source: MA BRFSS 1998-2000

Figure 52 shows that fair or poor health varied by the type of health problem or disability. People with chronic conditions were more likely than others to report fair or poor health.



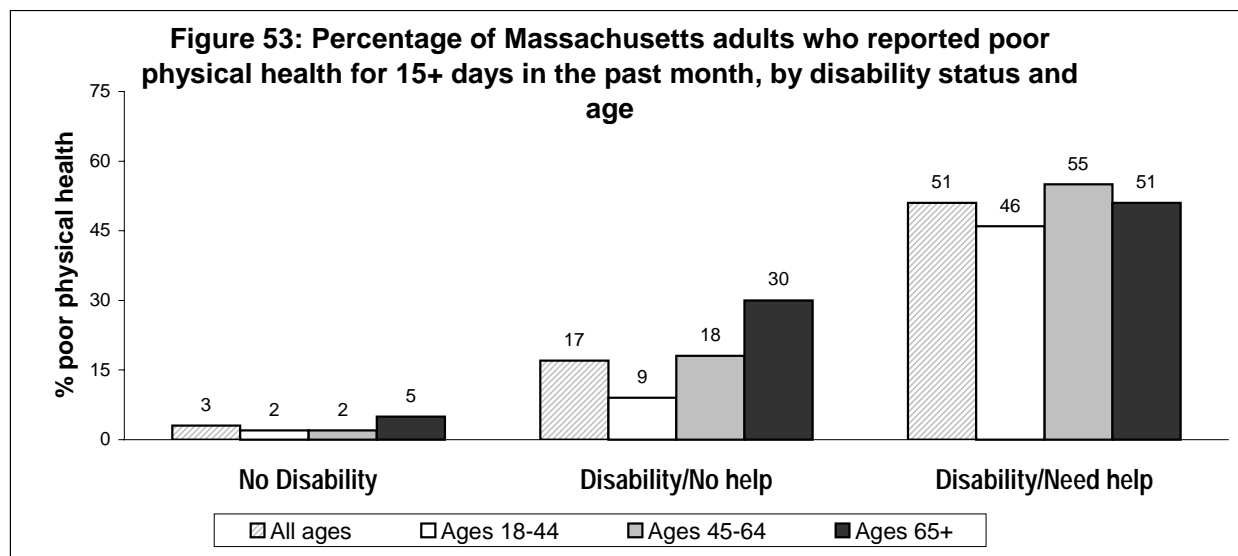
Source: MA BRFSS 1998-2000 *Age standardized to the 1998-2000 BRFSS population with disabilities.

Physical Health

Respondents were asked , “Now thinking about your physical health, which includes physical illness and injury, for how many days during the past 30 was your physical health not good?”

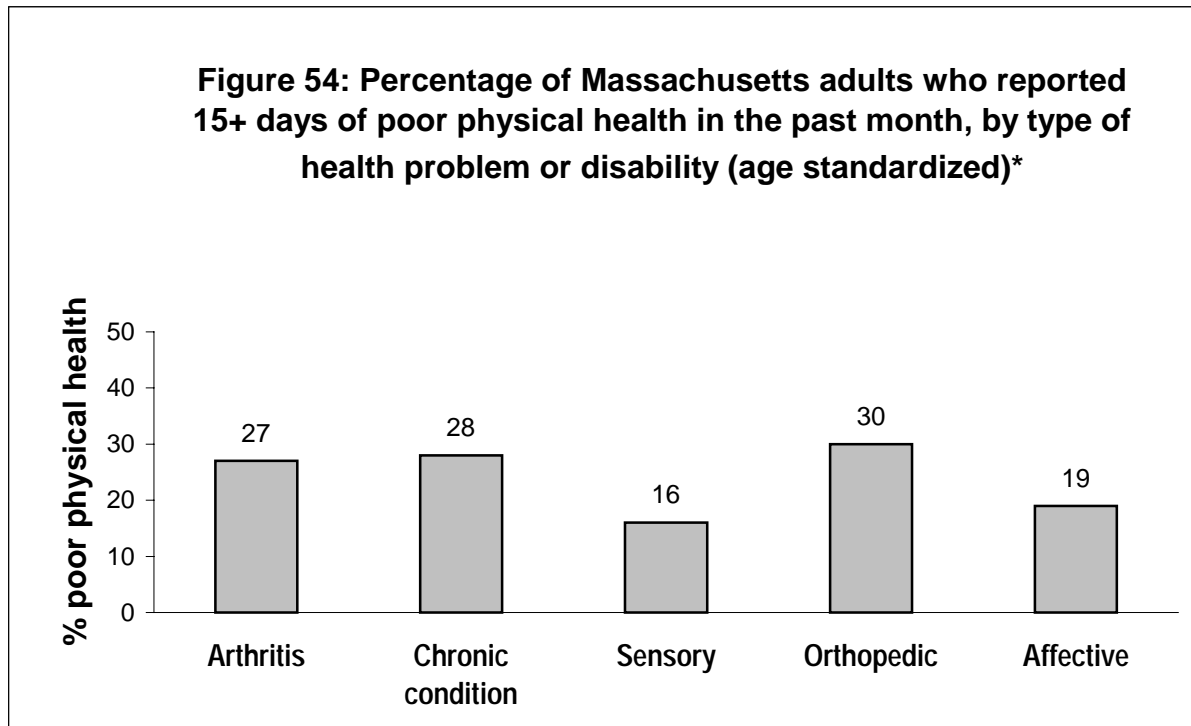
Physical health was strongly associated with disability status. Over one-half of adults with disabilities who needed assistance (51%) reported that their physical health was not good for 15 or more days in the past month, compared to 17% of those who had disabilities but did not need help, and three percent of those who had no disability (Figure 53).

Among adults without disabilities, poor physical health did not vary greatly by age, but did increase with age among those who did not need assistance. Poor physical health was high, regardless of age, for the adults with disabilities who needed help.



Source: MA BRFSS 1998-2000

Figure 54 shows that poor physical health also varied by type of disability. Individuals with arthritis, chronic conditions and orthopedic problems were the most likely to report poor physical health.



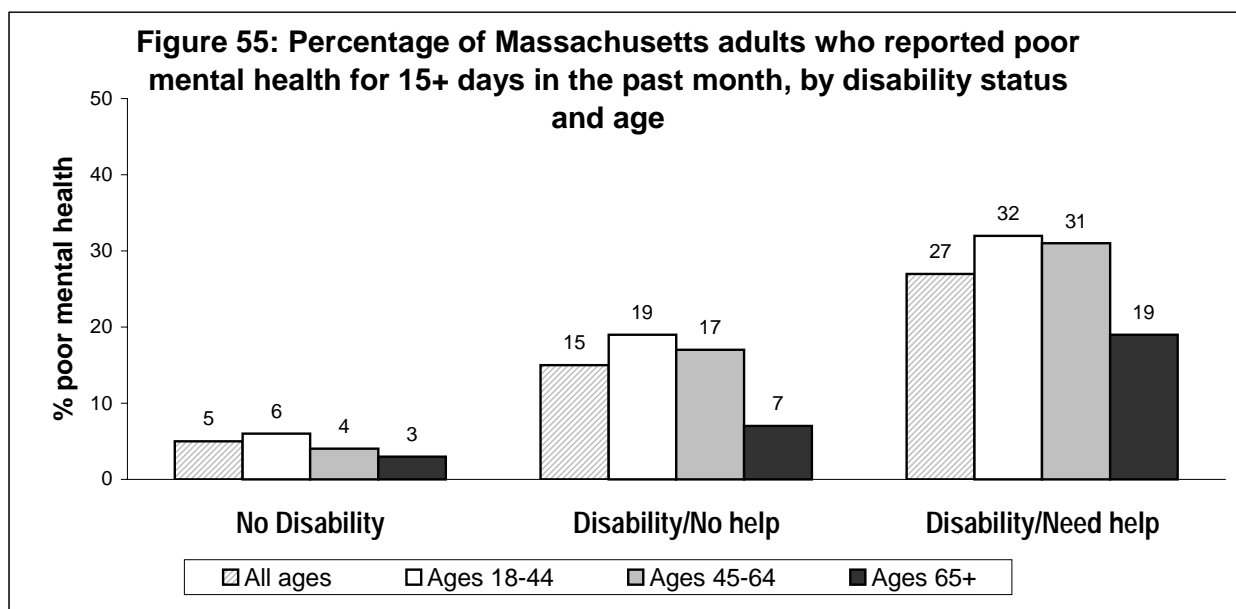
Source: MA BRFSS 1998-2000*Age standardized to the 1998-2000 BRFSS population with disabilities.

Mental Health

Respondents were asked, “Now thinking about your mental health, which includes stress, depression and problems with emotions, for how many days during the past 30 was your mental health not good?”

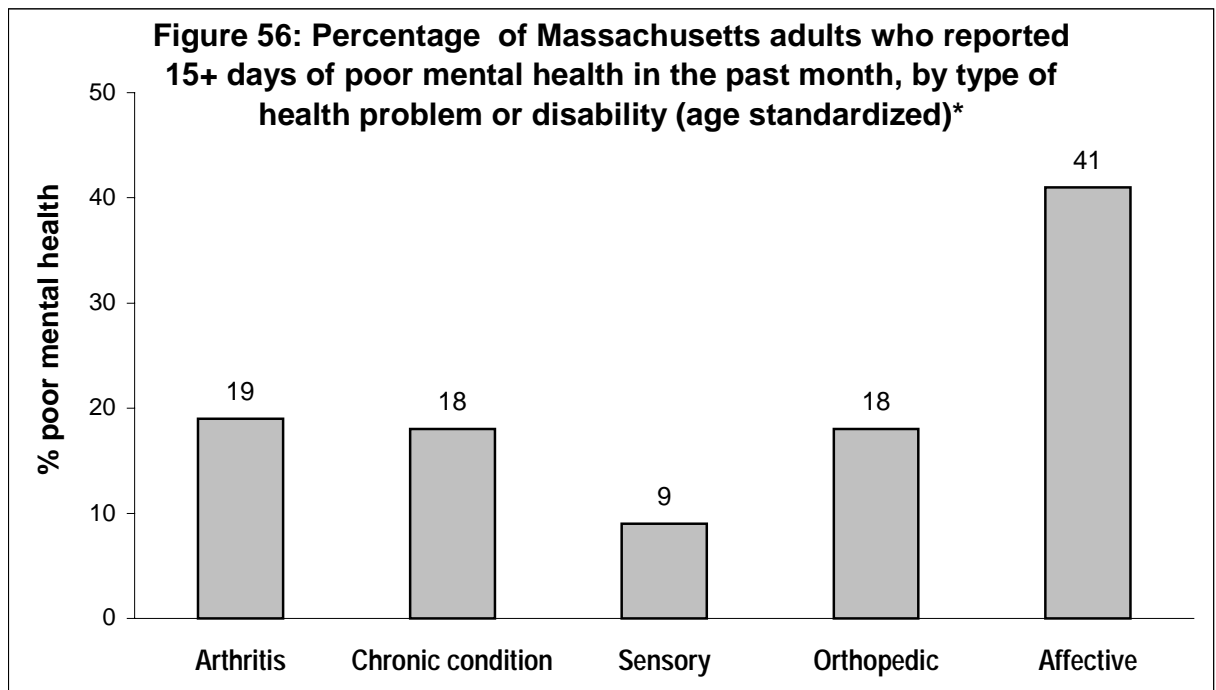
Mental health was also associated with disability status. Individuals with disabilities were more likely to report 15 or more poor mental health days in the last month (18%) than those without disabilities (5%). Those individuals with disabilities who needed assistance were the most likely to report 15 or more poor mental health days, regardless of age.

Among adults with disabilities, individuals 65 and older were much less likely to report poor mental health, compared to younger individuals.



Source: MA BRFSS 1998-2000

Figure 56 shows that poor mental health varied greatly by type of health problem or disability. Those with affective problems were the most likely to report poor mental health (41%) and those with sensory problems were least likely to report poor mental health (9%).

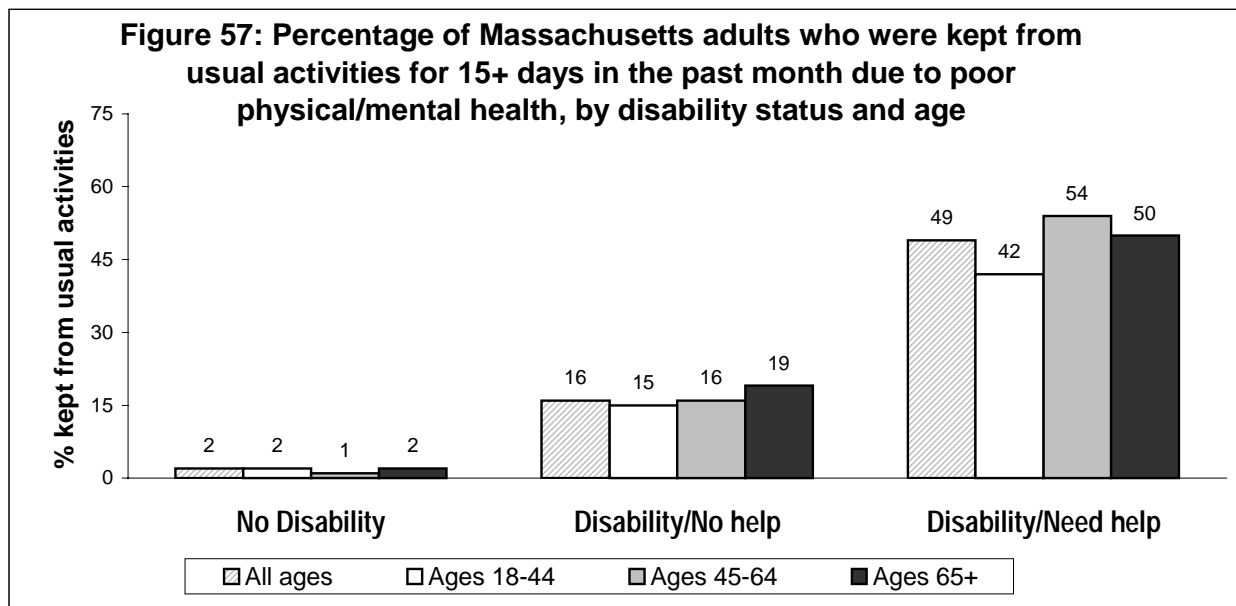


Source: MA BRFSS 1998-2000 *Age standardized to the 1998-2000 BRFSS population with disabilities.

Health Interfering with Usual Activities

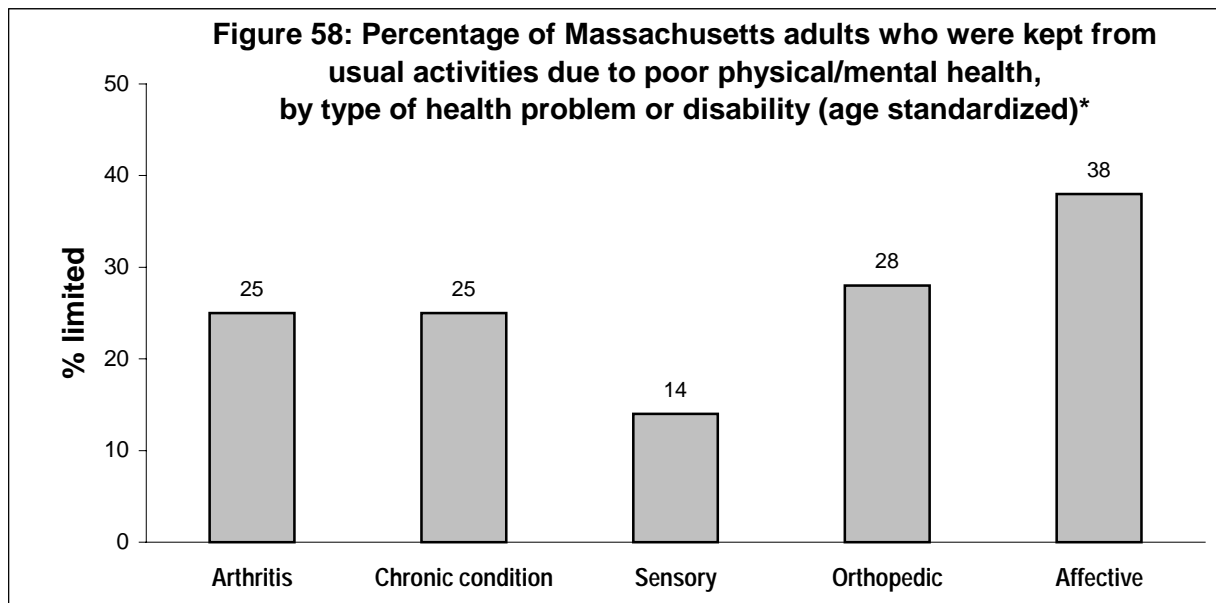
Respondents who reported at least one day of poor physical or mental health were asked, “During the past 30 days, for about how many days did poor physical or mental health keep you from doing your usual activities, such as self-care, work, or recreation?”

Disability status was strongly related to health interfering with usual activities, as was reported by 49% of adults with disabilities who needed assistance, 16% of adults with disabilities who did not need assistance, and two percent of adults without disabilities. Health interfering with usual activities did not vary greatly by age among people with or without disabilities.



Source: MA BFSS, 1998-2000

There were differences in the percentage of adults with disabilities reporting that they were kept from usual activities due to health, based on the type of health problem or disability. Figure 58 shows that individuals with affective problems were most likely to have health interfere activities.

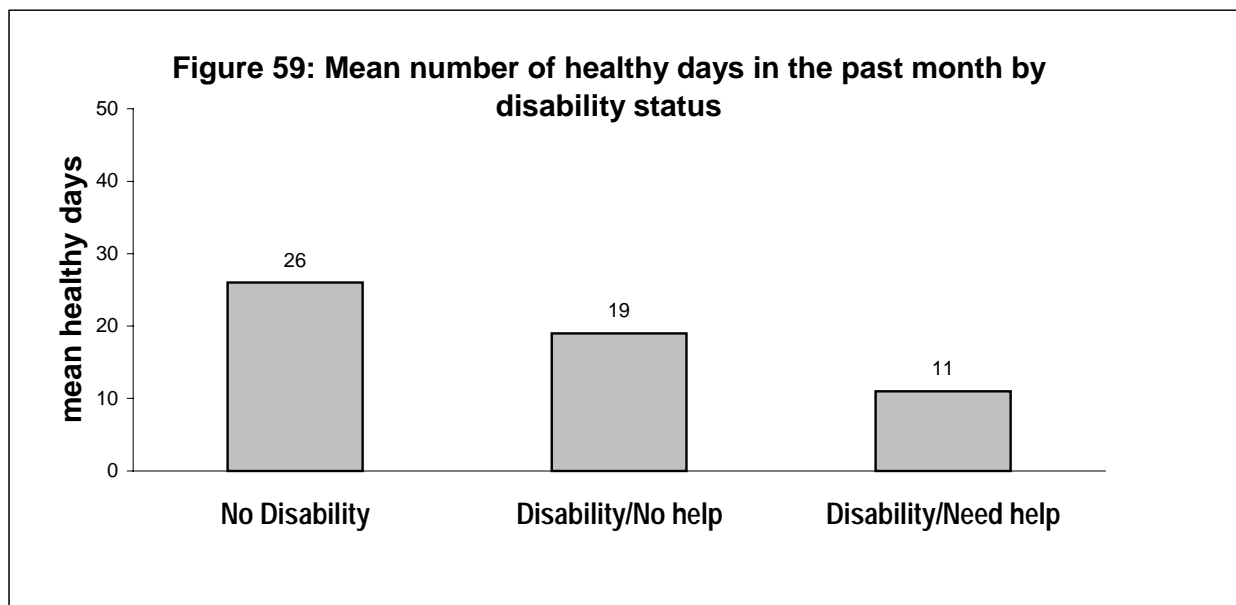


Source: MA BRFSS 1998-2000 *Age standardized to the 1998-2000 BRFSS population with disabilities.

Healthy Days

Another measure of overall well-being is “healthy days,” which is the number of days in the past 30 when both physical and mental health were good. The number of healthy days was also associated with disability status. Adults with disabilities had fewer healthy days compared to adults without disabilities.

The mean number of healthy days in the past month was 26 for adults without disabilities, 19 for adults with disabilities who did not need assistance, and 11 for adults with disabilities who needed assistance. Healthy days did not vary by age for any group.

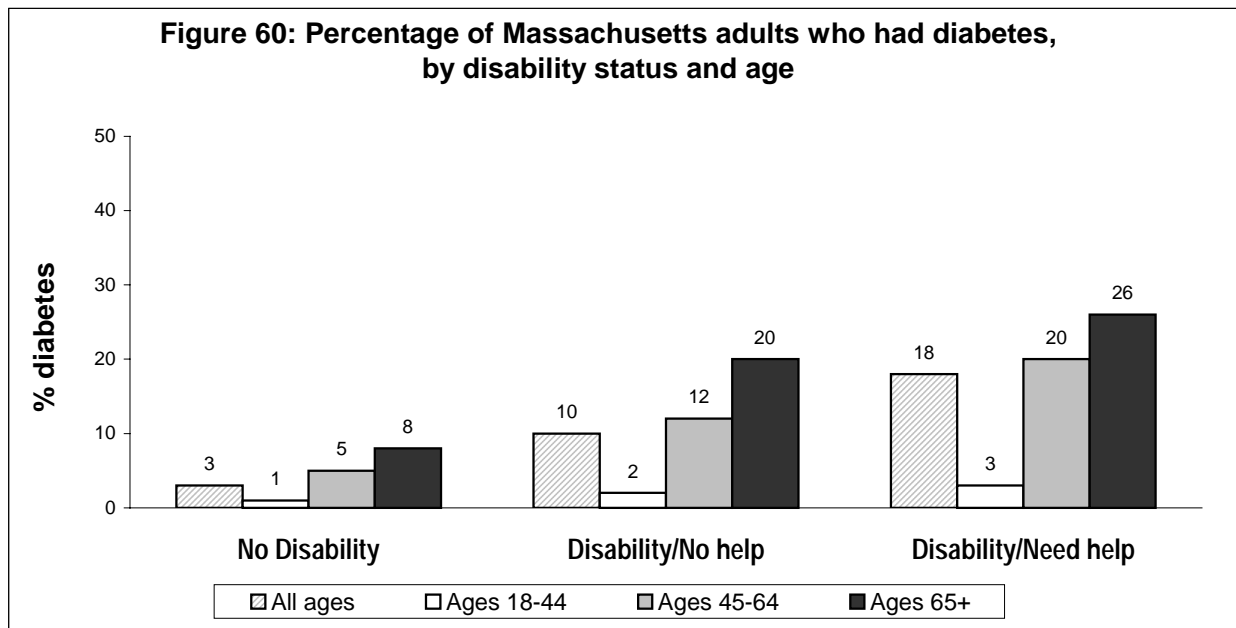


Source: MA BRFSS 1998-2000

Diabetes

Adults with disabilities were much more likely to have diabetes (12%) compared to adults without disabilities (3%). Diabetes was particularly high among adults with disabilities who needed assistance (18%).

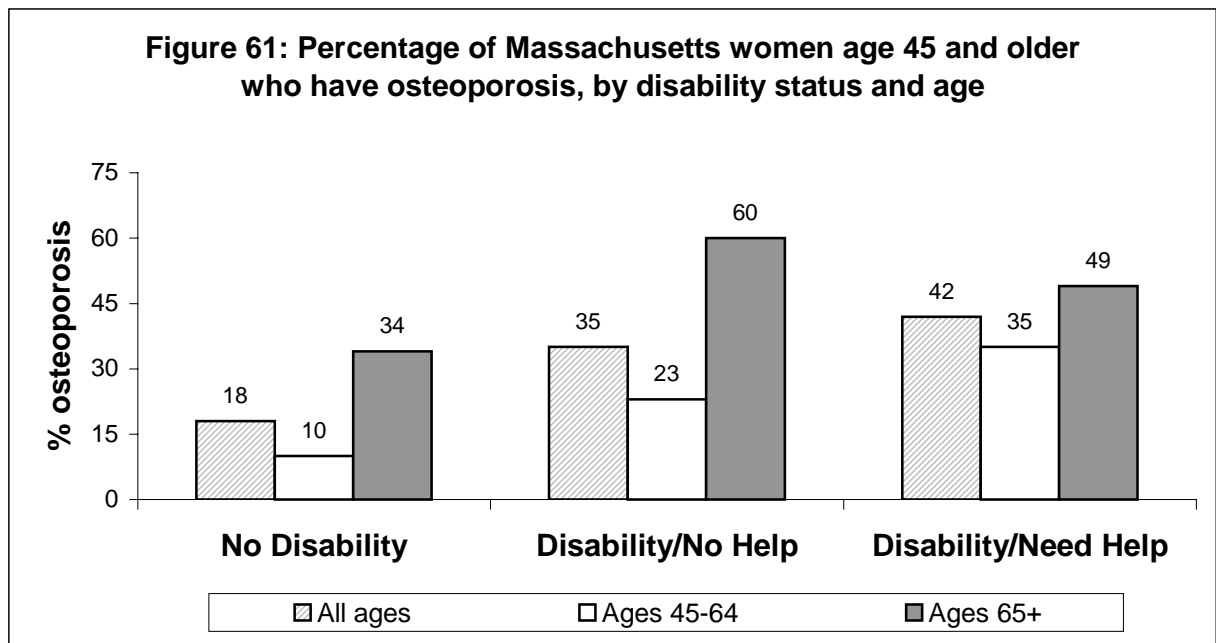
Figure 60 shows that diabetes increased with increasing age among people with and without disabilities. However the increase in diabetes rates for age 45 and older was much greater for adults with disabilities, when compared to adults without disabilities.



Source: MA BRFSS, 1998-2000

Osteoporosis

Women with disabilities, age 45 and older, were more likely to have osteoporosis (38%) compared to women without disabilities (18%). Osteoporosis was particularly high among women with disabilities who did not need help, age 65 and older (Figure 61).

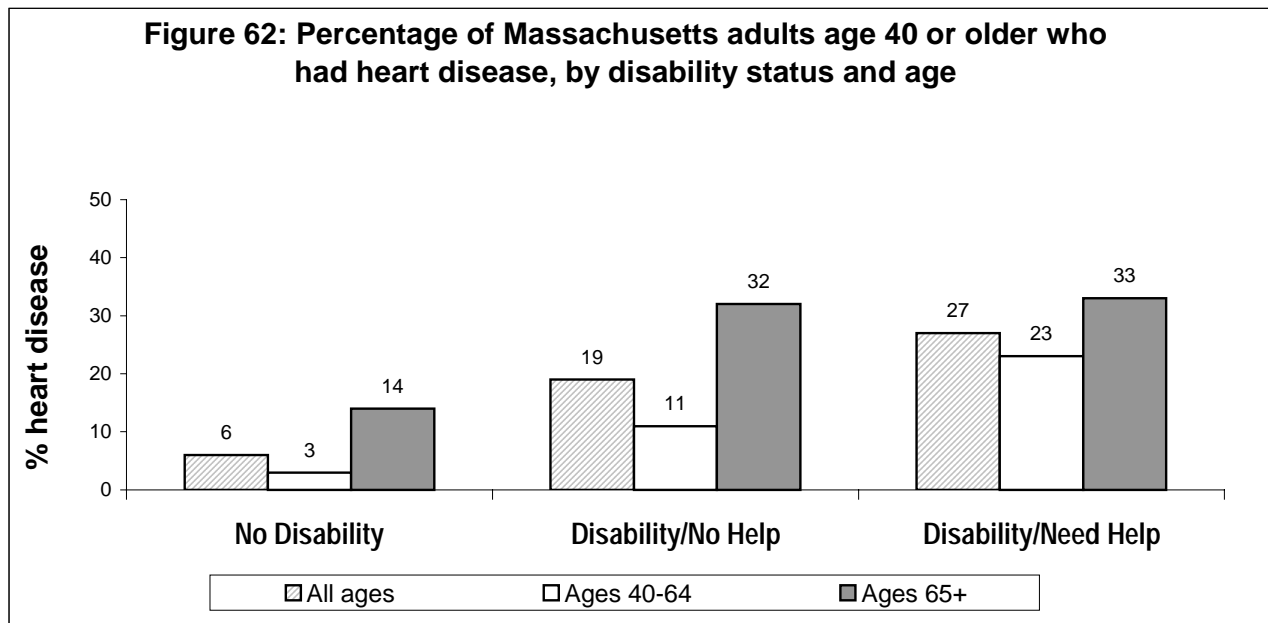


Source: MA BRFSS, 1998, 2000

Heart Disease

Adults with disabilities were more likely to have ever been told by a health professional that they have heart disease (21%), than adults without disabilities (6%).

Figure 62 shows that heart disease increased considerably with age among people with and without disabilities. Heart disease was higher among adults with disabilities, regardless to age.

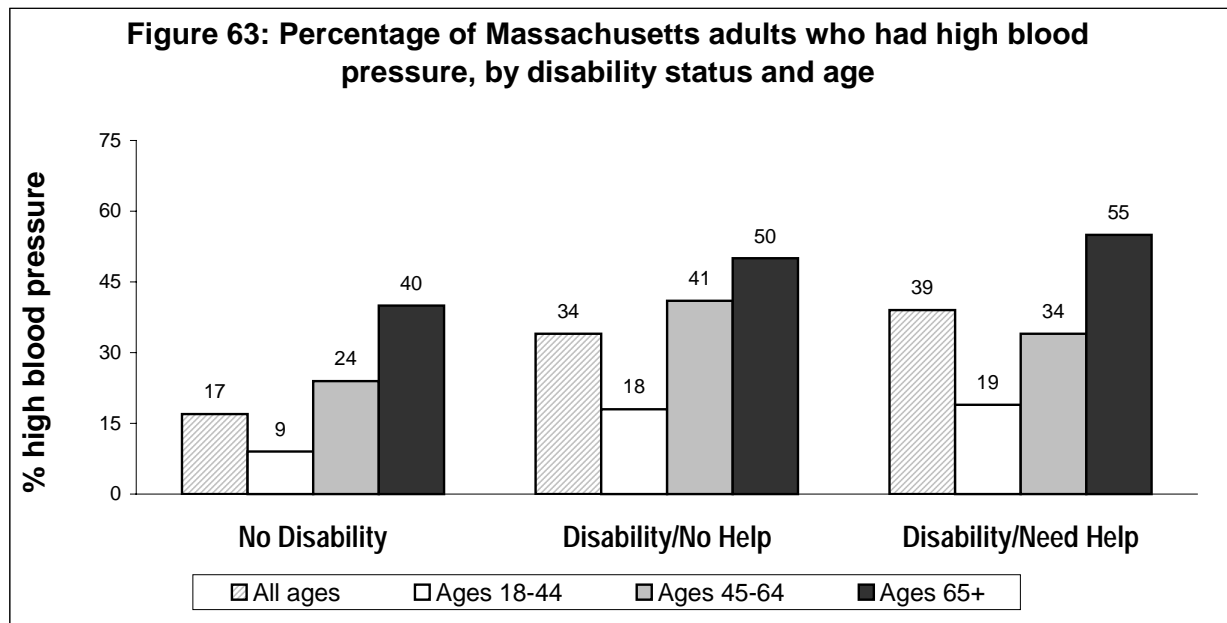


Source: MA BRFSS, 1998, 2000

High blood pressure

Among those who ever had their blood pressure checked, adults with disabilities were much more likely to have ever been told by a health professional that they had high blood pressure (36%), compared to adults without disabilities (17%).

Figure 63 shows that high blood pressure increased with increasing age among those with and without disabilities and was higher among adults with disabilities within each age category.

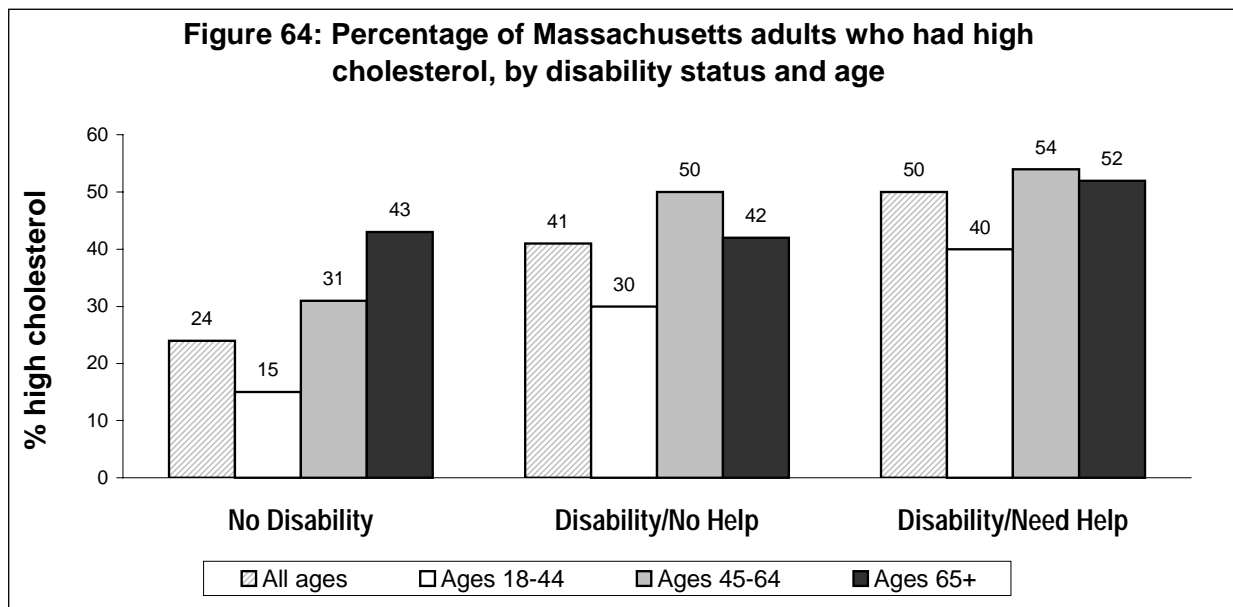


Source: MA BRFSS, 1999

High cholesterol

Among those who ever had their cholesterol checked, adults with disabilities were more likely to have been told by a health professional that they had high cholesterol (44%) compared to those without disabilities (24%).

Figure 64 shows that among people 18-64, those with disabilities were more likely to have high cholesterol than those without disabilities. There was little difference in the rate of high cholesterol by disability status among individuals 65 and older.



Source: MA BRFSS, 1999

Appendices

Appendix 1. Data Source

The data used for this analysis were collected from the 1998-2000 Massachusetts Behavioral Risk Factor Surveillance System (BRFSS). The BRFSS is a continuous, random-digit-dial (RDD) telephone survey of non-institutionalized adults age 18 and older and living in households with telephones. The BRFSS is conducted in all states as a joint collaboration between the Centers for Disease Control and Prevention (CDC) and State Departments of Health. The BRFSS collects data on a variety of health characteristics, risk factors for chronic conditions, and preventive behaviors.

The survey has been in the field in Massachusetts since 1986. From 1998 to 2000, the Massachusetts BRFSS was conducted by ORC Macro. The sampling of the survey population involved a list-assisted, stratified RDD sampling frame, which assures that Massachusetts households with telephone numbers assigned after publication of the current directories, as well as households with deliberately unlisted numbers, are included in the sample in appropriate proportions. This methodology is designed to more efficiently and validly reach all telephone equipped households, and to provide population estimates of health conditions and behaviors.

Telephone numbers were randomly selected, and a minimum of 15 attempts were made to reach each household. To be eligible to participate in the survey, the household had to be occupied by at least one adult aged 18 and older. Institutions, group quarters, and temporary residences occupied for less than one month per year were excluded from the survey. In order to provide estimates of health at the local level, additional interviews were conducted among adults residing in the following major cities in the Commonwealth: Boston, Worcester, Springfield, Lawrence, Lowell, Fall River, and New Bedford.

Once a household was contacted, one adult was randomly selected to complete the interview. No proxy respondents or substitutions were allowed in the event that the selected adult was unwilling or unable to complete the interview for any reason such as language barriers, disability, or lack of availability. In addition to English, in 1998-2000 the survey was included in Spanish and Portuguese. In 1999 the survey was also conducted in Chinese and Haitian Creole. In 1998, 4,944 adults completed the survey. In 1999, 7,287 adults completed the survey. In 2000, 5,448 adults completed the survey that conducted the questions on disability. The completion rate ranged from 41% to 59% of eligible households. Interviews were not completed in 4% to 7% contacted households due to language barriers and in 1% to 2% contacted households due to disability of the selected respondent.

Data were weighted to reflect the probability of selection and differential participation by sex, age, and race. Analyses in this report were conducted using two computer programs -- SAS and SUDAAN. The latter was used to calculate 95% confidence intervals that accounted for the weighting and complex sampling design of the survey.

Appendix 2. Measurement of Disability

BRFSS Questions

In 1998-2000, four screener questions were asked of all survey respondents to identify adults with disabilities.

Activity Limitation

“Are you limited in any way in any activities because of any impairment or health problem?”

Learning Difficulty

“Because of any impairment or health problem, do you have any trouble learning, remembering, or concentrating?”

Use of Aid

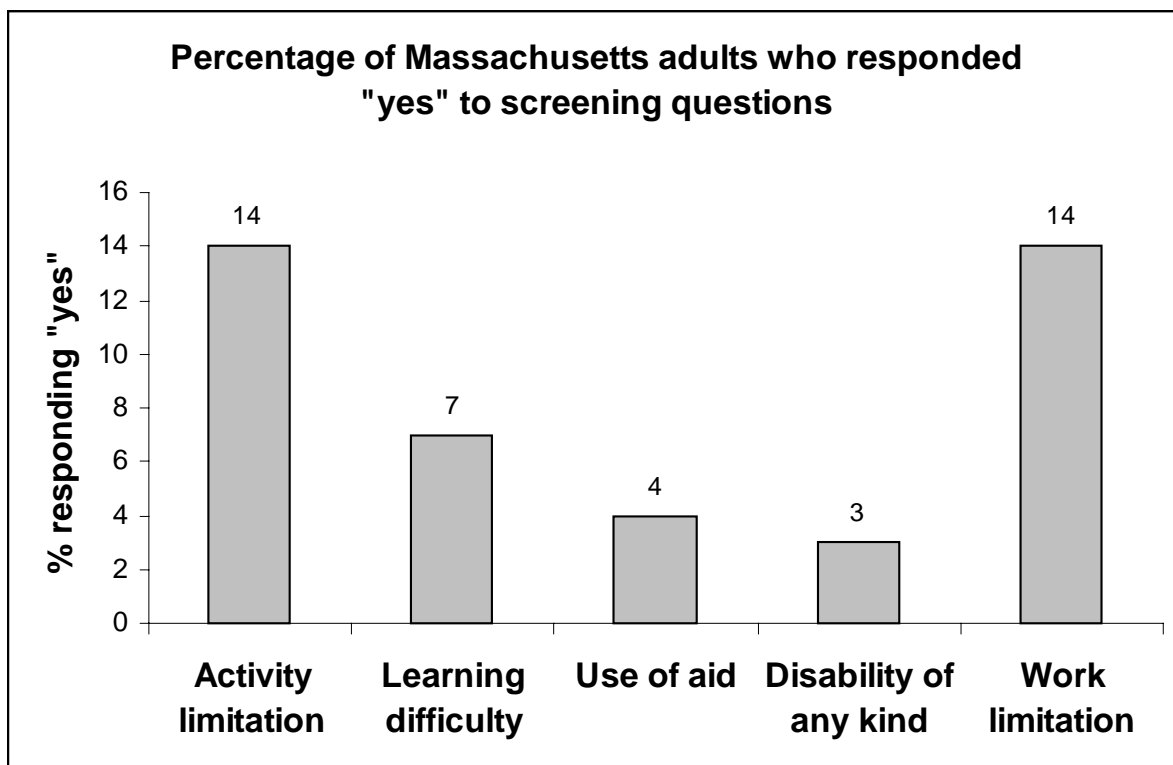
“If you use special equipment or help from others to get around, what type do you use?”

Work Limitation

“Are you limited in the kind or amount of work you can do because of any impairment or health problem?”

A fifth screener question was asked of all respondents who did not respond yes to any of the previous questions.

“Would you describe yourself as having a disability of any kind? A disability can be physical, mental, emotional, or communication-related.”



Source: MA BRFSS, 1998-2000

Individuals who responded yes to any of the screening questions were asked about the nature of their major impairment, health problem, or disability, how long their activities had been limited; and whether they needed the help of other persons in handling routine needs or personal care.

Defining Disabilities

Disability: Individuals who responded yes to at least one of the screening questions, with the exception of the work limitation question, and whose activities had been limited for at least one year were considered as having a disability. Those who answered yes to one of the screening variables but who had been limited for less than one year were excluded from the analysis (N=799).

Those who answered “yes” only to the work limitation question but not to any of the other disability screeners (N=420) were excluded from the analysis because of uncertainty as to how this question was understood. Over 30% of those who answered yes only to work limitations were over age 65 and almost all of those over 65 were retired. In addition, concerns about this question as a measure of disability have led to its exclusion from future BRFSS surveys, beginning in 2001.

Disability/no help (N=2,193): Individuals who have disabilities and who responded that they did not need the help of other persons with their personal care needs and that they did not need the help of other persons in handling their routine needs were classified as “disability/no help.”

Disability/need help (N=868): Individuals who have disabilities and who responded that they needed the help of other persons with their personal care needs or in handling their routine needs were classified as “disability/need help.”

No Disability (N= 12,676): Individuals who responded no to all disability screening questions were classified as “no disability.”

Appendix 3. Limitations

Findings in this report should be interpreted in light of some important limitations. First, as noted in the introduction, persons with the most severe limitations are not represented.

Second, households that do not have a telephone do not have the opportunity to participate in the survey. Although only two percent of Massachusetts households lack a telephone, almost 10% of households living below poverty lack a phone, based on the 1990 Census.

In addition, a substantial percent of households contacted to participate in the BRFSS did not complete the survey. Although households were telephoned on repeated occasions, interviewers were not always able to reach the randomly selected adult in the household and some adults contacted did not agree to participate in the survey. We would be concerned about a bias in the results if the respondents who participated differed significantly from those not included in the survey. The weighting of the data partially takes into account this non-response.

Finally, all data collected by the BRFSS are based on self-report from the respondents. By its nature, self-reported data may be subject to error for several reasons. An individual may have difficulty remembering events that occurred a long time ago or the frequency of certain behaviors. Some respondents may overreport socially acceptable behaviors and underreport behaviors deemed unacceptable. Disability is a complex and somewhat subjective concept and the same people may characterize their condition differently at different times. In addition, different people may characterize the same condition differently.

Appendix 4. Data Summary: Comparisons Between Adults With and Without Disabilities

Variable	NO DISABILITY		DISABILITY					
			All Disability		No Assistance		Need Assistance	
	%	95% CI	%	95% CI	%	95% CI	%	95% CI
SOCIO-ECONOMIC CHARACTERISTICS								
Employed	83.1	82.1 – 84.2	58.7	55.8 – 61.6	67.3	64.1 – 70.5	30.9	25.4 – 36.3
Unable to work	0.2	.01 – 0.3	17.2	15.0 – 19.3	10.4	8.2 – 12.5	39.0	33.4 – 44.7
Unemployed	3.4	3.0 – 3.8	7.8	6.3 – 9.3	6.7	5.0 – 8.5	11.2	7.8 – 14.5
Income - <\$25,000	14.5	13.4 – 15.5	32.9	29.7 – 36.2	27.2	23.6 – 30.7	52.6	45.7 – 59.5
\$25-49,999	32.1	30.8 – 33.4	28.8	25.9 – 31.7	28.6	25.3 – 31.9	29.2	23.0 – 35.4
\$50,000+	53.4	52.0 – 54.8	38.3	35.0 – 41.5	44.2	40.5 – 48.0	18.1	13.2 – 23.2
Live alone	18.3	17.3 – 19.3	30.1	27.4 – 32.8	27.3	24.2 – 30.5	38.0	32.7 – 43.4
Live w/person w/disabilities								
HEALTH RISKS								
Current smoker	18.8	17.8 – 19.7	25.2	23.1 – 27.2	23.4	21.1 – 25.7	30.0	25.6 – 34.4
Binge drinking	19.0	17.4 – 20.6	13.4	10.7 – 16.0	15.9	12.5 – 19.2	7.1	3.4 – 10.7
Heavy drinking	4.4	3.6 – 5.2	4.4	2.8 – 5.2	4.9	2.9 – 5.2	3.2	0.6 – 5.7
Fruit/vegetable consumption	30.4	29.0 – 31.8	27.9	25.2 – 30.6	27.7	24.5 – 30.9	28.6	23.6 – 33.7
Overweight	47.5	46.1 – 49.0	59.8	57.0 – 62.5	59.8	56.6 – 63.1	60.1	54.8 – 65.3
Obese	12.3	11.5 – 13.1	22.8	20.7 – 24.8	22.0	19.5 – 24.4	24.9	21.1 – 28.9
No exercise	21.6	22.9 – 20.4	35.0	32.1 – 37.9	31.0	27.6 – 34.3	46.4	40.8 – 52.1
HEALTH ACCESS								
No insurance	5.5	4.8 – 6.1	5.3	4.2 – 6.3	5.8	4.6 – 7.1	3.7	1.9 – 5.5
Underinsured	4.6	4.0 – 5.1	7.9	6.7 – 9.1	6.9	5.6 – 8.2	10.8	8.1 – 13.5
Private insurance (18-64)	89.5	88.6 – 90.3	66.5	63.7 – 69.4	73.5	70.4 – 76.6	44.6	38.6 – 50.6
Medicare (18-64)	2.8	2.4 – 3.3	16.1	13.9 – 18.3	10.4	8.5 – 12.3	34.2	28.2 – 40.3
Medicaid (18-64)	3.0	2.6 – 3.4	11.0	9.1 – 12.9	9.4	7.2 – 11.7	16.2	12.6 – 19.9
Routine checkup	77.0	76.0 – 78.0	85.5	83.9 – 87.2	83.8	81.8 – 85.8	90.2	87.3 – 93.1
Flu shot	27.5	25.7 – 29.2	45.4	41.5 – 49.4	42.8	38.2 – 47.5	51.3	44.0 – 58.5
Pneumonia vaccine	15.1	13.5 – 16.6	32.5	28.5 – 36.6	28.3	23.9 – 32.8	42.3	35.1 – 51.3
Dental visit	79.4	78.3 – 80.5	67.1	64.6 – 69.7	70.8	67.8 – 73.8	57.4	52.2 – 62.6
No dental insurance	35.4	33.6 – 37.3	41.2	37.2 – 45.2	39.9	35.2 – 44.6	44.7	37.2 – 52.2
Teeth removed	13.3	12.4 – 14.2	31.1	28.5 – 33.7	26.8	23.9 – 29.7	43.2	37.8 – 48.6
Mammogram (women, 40+)	69.3	67.4 – 71.1	68.2	65.0 – 71.3	66.9	62.9 – 71.0	70.1	65.0 – 75.1
Clinical breast exam (women 20+)	80.7	79.4 – 81.9	77.6	75.1 – 80.1	76.7	73.5 – 79.8	79.6	75.3 – 83.8
Pap test (women, no hysterectomy)	89.4	88.3 – 90.5	86.1	83.8 – 88.5	86.6	83.7 – 89.4	85.6	81.3 – 89.9
Digital rectal exam (men 50+)	61.2	57.0 – 65.3	63.4	56.5 – 70.4				
PSA test (men 50+)	57.0	52.6 – 61.3	61.6	54.5 – 68.7				
Stool blood test (50+)	29.7	27.3 – 32.0	25.0	21.6 – 28.4	25.2	21.0 – 29.4	24.6	18.7 – 30.5
Proctoscopic exam (50+)	34.3	31.8 – 36.7	40.5	36.2 – 44.7	40.8	35.7 – 45.9	39.0	31.3 – 46.7
High/medium HIV risk	6.7	6.0 – 7.3	8.0	6.2 – 9.8	7.7	5.6 – 9.8	9.0	5.7 – 12.3
HIV test	20.1	18.8 – 21.3	26.6	23.2 – 30.0	24.4	20.7 – 28.0	34.0	26.2 – 41.8

	NO DISABILITY		DISABILITY					
			All Disability		No Assistance		Need Assistance	
	%	95% CI	%	95% CI	%	95% CI	%	95% CI
QUALITY OF LIFE								
Inadequate support	6.2	5.6 – 6.9	11.7	10.1 – 13.3	10.6	8.9 – 12.3	14.6	10.9 – 18.2
Social participation	59.4	57.1 – 61.7	57.4	52.0 – 62.8	54.4	48.1 – 60.8	67.6	58.2 – 77.0
15+ days pain	1.7	1.4 – 2.0	25.9	23.6 – 28.1	17.9	15.4 – 20.5	48.3	43.6 – 53.0
15+ days sad	3.5	3.1 – 3.9	17.9	16.1 – 19.7	13.7	11.8 – 15.6	29.7	25.6 – 33.9
15+ days tense	8.4	7.7 – 9.1	26.0	23.9 – 28.1	21.9	19.6 – 24.4	38.0	33.4 – 42.6
15+ days no sleep	20.6	19.7 – 21.6	35.8	33.4 – 38.2	32.1	29.4 – 34.9	38.2	33.9 – 42.6
15+ days energy	78.9	77.9 – 79.9	45.6	43.0 – 48.2	51.3	48.2 – 54.4	29.5	24.8 – 34.2
Dissatisfied	2.9	2.5 – 3.2	13.2	11.6 – 14.7	10.4	8.8 – 12.1	20.9	17.4 – 24.5
Intimate partner abuse	4.6	3.6 – 5.5	10.3	6.9 – 13.7	8.9	5.0 – 12.8	14.0	7.3 – 20.6
Sexual Assault	17.8	16.3 – 19.3	33.8	29.4 – 38.1	32.3	27.0 – 37.6	38.3	30.7 – 46.0
HEALTH STATUS								
Fair/poor health	4.5	4.1 – 5.0	36.3	34.0 – 38.7	27.4	24.8 – 29.9	60.9	56.5 – 65.3
Poor physical health	2.6	2.3 – 3.0	26.1	24.0 – 28.1	17.1	15.0 – 19.1	50.9	46.5 – 55.4
Poor mental health	5.1	4.6 – 5.6	18.4	16.7 – 20.3	15.5	13.5 – 17.5	26.8	22.9 – 30.8
Kept from usual activities	1.7	1.3 – 2.0	26.2	23.7 – 28.8	16.4	13.8 – 19.0	49.1	44.0 – 54.2
Diabetes	2.9	2.5 – 3.3	14.5	12.8 – 16.1	10.0	8.0 – 11.9	17.6	13.6 – 21.6
Osteoporosis (women, 45+)	9.0	7.1 – 11.0	25.2	20.1 – 30.3	22.3	16.5 – 28.1	30.1	20.7 – 39.5
Heart disease (40+)	5.7	4.6 – 6.7	21.4	18.4 – 24.3	18.7	15.3 – 22.3	27.5	21.8 – 33.1
High blood pressure	16.9	15.5 – 18.3	35.5	31.5 – 39.5	34.3	29.5 – 39.0	38.7	31.2 – 46.2
High cholesterol	23.7	21.9 – 25.4	43.9	39.4 – 48.4	41.3	36.0 – 46.7	50.0	41.8 – 58.2